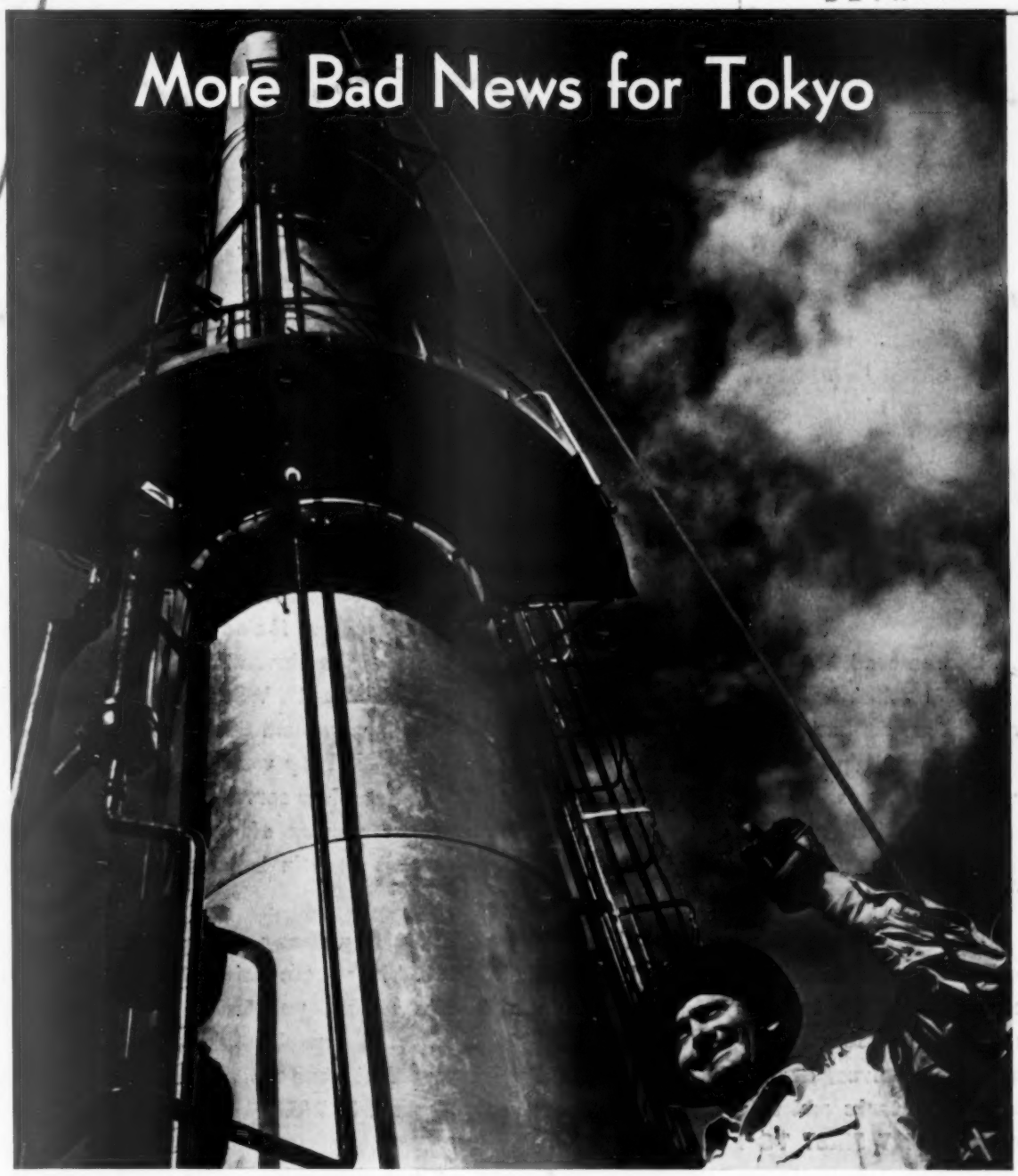
September 13, 1944

NATIONAL PETROLEUM NEWS

TECHNOLOGY DEPT.
SEP 13 1944
DETROIT

More Bad News for Tokyo



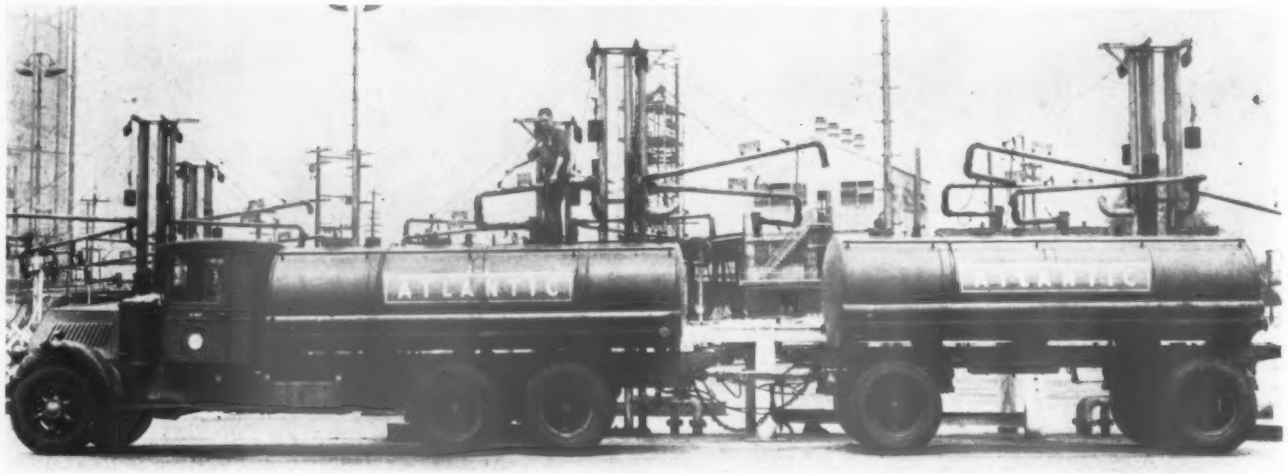
Millions more gallons of 100 octane aviation gasoline for Uncle Sam's super bombers blasting Japan's war industries will flow from this huge plant recently completed by The Texas Co. on the Pacific Coast. This plant completes a nationwide program of refinery expansion by Texaco to meet wartime demands. Officials say the new plant is also capable of producing new super aviation fuels, even more powerful than 100-octane, as soon as the armed forces give the go-ahead signal. Photo shows part of the giant superfractionator tower

With Warren Platt in England: NPN's editor sends an interesting and important article on army mobile testing laboratories and then describes the harbor scene aboard a tanker en route to France. **See Pages 5 and 19.**

Lack of Equipment Delays Postwar Planning: NPN staffer continues survey in Michigan—finds jobbers fear delays in rehiring unless they can get replacements. **Details on Page 14.**

Dewey Forecasts Huge Demand for Crude and Synthetic Rubber: Director, in final report, says U. S. must stay independent of foreign supply; gives production cost figures. **Page 28.**

Farrell 13-Year-Old Transports Still Giving Efficient Service!



One of The Atlantic Refining Co's million-mile fleet that was ready for war, and is still going strong.

ONE of the finest stories of industrial efficiency to come out of the war was told in the July 26th issue of N.P.N. It was the story of how The Atlantic Refining Company has kept its big fleet of 1,000 truck tanks and trailers in practically constant operation from Maine to Florida ever since America entered the war. The article told, in particular, of the eleven 2500-gallon trucks with their 2800-gallon trailers that are known as the "pets of the fleet". When the war started this group of trucks had rolled up mileage equivalent to 30 times around the globe at the equator, or 250 round trips between Philadelphia and San Francisco. They were slated for retirement or trade-ins as far back as 1936, but, instead, were pressed into service to haul water during the Western Pennsylvania flood disaster. Then, with the coming of war, these trucks and trailers were again destined to play a dramatic role — this time in helping solve petroleum's war transportation problems.

We are proud of the fact that these veterans, still going strong, were built by FARRELL for The Atlantic Refining Company 'way back in 1931. They were originally purchased and designed for bulk haulage to plants within a 50-mile radius, yet today the speedometer readings on these units is from 600,000 to 1,000,000 miles. The special emergency valves, designed by us, are still giving perfect service. These truck tanks and trailers have lived up to the famous FARRELL slogan—BUILT FIRST TO LAST!

FARRELL MFG. COMPANY

Joliet, Illinois

Facts and Flashes

From the
ETHYL CORPORATION
Chrysler Building, N.Y.C.

THE DRASTIC CURTAILMENT in the manufacture of premium gasoline which is now being felt in retail outlets—plus the more recent reduction in octane rating of housebrand from 72 to 70—is a direct reflection of allied successes both in the European and Asiatic theatres of war.

Ever since the Luftwaffe failed to stop Allied air forces from bombing the Reich practically at will, bombing schedules have been greatly stepped up...requiring ever increasing amounts of high-octane gasoline and Ethyl fluid. Likewise, the failure of the Japanese to check our air operations has tremendously speeded up the tempo of the war in the Pacific. This, too, calls for more high-octane gasoline—and more Ethyl fluid.

Despite the fact that Ethyl fluid production has been greatly increased, civilian consumption had to take a cut...but the gasoline station operator who is forced to hang a "no gas" sign on his Ethyl pump, or explain to his customers why his housebrand has more of a tendency to knock, can find consolation in the fact that the current shortage may mean a shorter war.

* * *

THE LATEST ARMY FLAME THROWER shows increases in both range and accuracy. It uses gasoline, thickened with a gelatin powder, as fuel. It has a range up to 180 feet whereas kerosene-like fuel is effective only to 60 feet. The "gel gas" has the additional advantage of sticking to its objective while burning fiercely.

ARMY TRAINED OIL MEN are ready to restore, for Allied use, wrecked oil fields left in the wake of retreating Axis forces. Eighty-two per cent of the officers and men in the 1st Engineer Petroleum Production Depot were oil men in civilian life. However, they receive intensive training in Southern California. The G.I. outfit, organized like a private concern, is divided into drilling, pipe-fitting, and refinery battalions. One hundred wells can be sunk annually by the combined unit and a refinery capable of handling 20,000 barrels of crude a day can be rigged.

ELECTRONIC HEAT is now being used to speed tire repairing and vulcanizing. Developed by the U. S. Army, the new process gives all sections uniform temperature, makes possible better work in less time.

Late Flash

The Army is now reported to be using about 40 per cent of the entire output of gasoline—between 25,000,000 and 30,000,000 gallons a day.

Industry Mourns John A. Brown; Death Viewed as War Casualty

NPN News Bureau

NEW YORK — Funeral services were held here Sept. 12 for John Albert Brown, president of the Socony-Vacuum Oil Co., Inc., who died Sept. 9 at the Royal Victoria Hotel in Montreal.

Mr. Brown, who was 59, was another of the war casualties among top executives of major oil companies. He had gone to Canada early in August for a vacation and a rest after many strenuous months at the helm of Socony-Vacuum. He became ill in Montreal and underwent an abdominal operation three weeks ago.

Telegrams of condolence were received from friends and industrial leaders throughout the nation. The tenor of most of these messages was typified by a telegram sent by William R. Boyd, Jr., chairman of P. I. W. C., to Harold F. Sheets, vice-president and a director of Socony-Vacuum. Mr. Boyd's telegram read:

"The news of John Brown's death is shocking. Another war casualty, for John has given generously of his strength and of his great intellect to his country and his industry and his friends throughout the entire war period. I am proud to have been his friend and associate war worker. He was really one of the irreplaceable men, and his country and his industry, even more than the great oil company over which he presided, will be the greatest losers. His passing is a real blow to me and I share equally with you and all your company associates the sorrow."

Headed General Committee

Mr. Brown had been a leader in the petroleum industry war program ever since Pearl Harbor. After the creation of PAW Mr. Brown was made chairman of the general industry committee in Dist. No. 1.

Last April he was one of the industry advisers to the Anglo-American conference on oil policies held in Washington. He was also chairman of the national oil policy committee of P. I. W. C., charged with formulating a long-range foreign and domestic oil policy for the federal government. In the latter capacity he dealt with such matters as the Saudi-Arabian pipeline.

Pallbearers at the funeral included John D. Rockefeller, Jr.; Winthrop Aldrich, chairman, Chase National Bank; Alva Little, president, Magnolia Petroleum Co. of Dallas, Tex.; Arthur Lawrence, of F. S. Smithers & Co.; E. T. Stannard, president, Kennecott Copper Corp.; Alfred Jacobsen, president, Amerada Petroleum Corp.; R. L. Minckler, assistant to the president, General Petroleum Corp.; and Walter Teagle, ex-chairman of Standard Oil Company (N. J.). In addition the following Socony-Vacuum directors acted as pall-bearers: Charles E. Arnott, Wilbur F. Burt, John C. Case, Arthur F. Corwin, Walter L. Faust, George V. Holton, Laurence B. Levi, Arthur T. Roberts and Harold F. Sheets.

Wife, Sister Survive

Mr. Brown is survived by his wife, Mrs. Ella Marie Mathisen Brown, whom he married in September, 1916, and a sister, Mrs. Bertha Brown Gosnell, of Pequannock, N. J. He lived at the Waldorf-Astoria Tower in New York City.

Mr. Brown became head of Socony-Vacuum in 1933, two years after it was formed as a result of a merger of Standard Oil Co. of New York and the Vacuum Oil Co. At first he was chairman of the executive committee and then was elected president.

John A. Brown

He had always strongly opposed government participation in the oil business here and abroad and was a champion of the cause of free competitive enterprise.

Entered Oil in 1911

Born in Hampton, Pa., Mr. Brown attended Girard College in Philadelphia. In 1901 he went to work in the auditor's department of the Pennsylvania Coal & Coke Co., of which he later became credit manager. He entered the oil business in 1911 as secretary-treasurer for a small company in Taft, Calif., where he obtained his first experience in oil drilling. He then joined the Cecil Rhodes group which had mining interests in North and South America, including oil properties in Mexico. In 1917 he negotiated the sale of these Mexican oil interests to the Standard Oil Co. of New Jersey and became assistant manager of Standard's Mexican business, with headquarters in Tampico.

After nine years in Mexico, Mr. Brown was transferred to the Netherlands East Indies, to take charge of operations there for the Standard Oil Co. of New Jersey. In 1928, he returned to the U. S. and became vice-president of the General Petroleum Corp., in Los Angeles, a subsidiary of the Standard Oil Co. of New York. In 1930 he was elected president of that concern and held that post until 1933.

Mr. Brown was made a director of the Chase National Bank of New York in 1934 and a member of its executive committee in 1942. He was a vice-president of the New York State Chamber of Commerce and a director of the New York Association of Commerce and Industry. He was also a director of the Greater New York Fund.

Ickes, Davies Pay Tributes

WASHINGTON — Paying tribute to the late John A. Brown, president of Socony-Vacuum Oil Co., PAW Ickes and deputy PAW Davies sent condolences in telegrams made public this week.

Mr. Ickes' telegram, addressed to the widow, follows:

"I am completely distressed to learn of the passing of your husband. In the trying years of war John Brown devoted himself unselfishly to the service of his country with a fine intelligence and courage. The oil industry has lost a great leader and we in the Petroleum Administration, an able and loyal counsellor. My deepest sympathy to you."

New Wartime Edition Index

Coming Meetings	65
Dewey's Final Report on Rubber	28
Eastern Rail Hauls	34
Markets	66
Oil Prices	68
Personals	73
Production	42
Refining	37
Statistics	67
Transportation	34
War Oil Compliance	58

BULLETIN

WASHINGTON — Average motorist can expect no improvement in civilian gasoline supplies until the war ends in Europe, the Office of War Information said this week in a report on the outlook for continued rationing.

NATIONAL PETROLEUM NEWS—Sept. 13, 1944—Vol. XXXVI—No. 37. Published every week at 1213 West 3rd St., Cleveland 13, Ohio, U. S. A. Subscription rate $5.00 per year in United States, Mexico, and Pan-American countries; $6.50 Canada and foreign countries. Entered as second class matter Jan. 17, 1910 at Cleveland, O., post office under act of March 3, 1879, by The National Petroleum Publishing Co.

Copyright 1944 The National Petroleum Publishing Company.

Byrnes Sees Civilian Motor Fuel Increase With German Defeat

War Mobilizer's Report to President Justifies NPN Prediction; Says Increase Will Not Be Sufficient to Abandon Rationing

NPN News Bureau

WASHINGTON—An increase in gasoline rations for civilians right after the end of the German war was forecast here this week by War Mobilizer Byrnes in a report to the President detailing plans for the rapid conversion of industry to a partial peacetime basis.

Bearing out the NPN article of Aug. 30, Justice Byrnes informed the President that Germany's collapse would increase the supply of motor fuel available for the civilian population, making possible an increase in allowances "in certain areas." The increase, however, will *not* be such, he added, as to "permit the discontinuance of rationing."

The Byrnes report dealt extensively with plans of the War Production Board for relaxing controls on industry, discussed problems of taxation and outlined procedures for cutting back manufacture of war goods, among other things.

Following are excerpts from the report:

ON CUT-BACK PROCEDURE: "With the defeat of Germany, the requirements of the procurement agencies for materiel and supplies will be reduced by approximately 40%. The primary objectives in the cut-back procedure will differ somewhat from those now in effect. The need will still remain to give full protection to the necessary war programs for the conduct of the war against Japan, but in so doing, every opportunity will be provided to permit the resumption of maximum civilian production without delay, thus preventing extended unemployment.

"The procurement agencies confronted with major readjustments following the defeat of Germany have prepared special procurement programs for the continuing war with Japan which are ready for implementation immediately upon the defeat of Germany.

"These agencies are now engaged in notifying prime contractors of their tentative plans under policies prescribed by the War Production Board. Moreover, the proposed contractual changes in major items have been or are in process of being submitted to the War Production Board for review and for the consideration of such changes as may appear desirable in the interests of the national economy.

"The staff which has obtained experience in analyzing current cut-backs is being utilized to examine the tentative cut-backs which will result with the defeat of Germany. The factors for the selection of facilities to be released at this time will differ, obviously, from those used with respect to current production, as speed in reconversion to desirable civilian production now becomes a major factor."

FACTORS BEING EVALUATED IN SELECTING FACILITIES FOR THE SECOND (JAPANESE) PHASE OF THE WAR: "(a) The procuring agency will retain until final victory those contractors which it has found from experience to be capable of producing required items of desirable quality at the desired scheduled rates. The contractors retained in war production until the end of the war must be the best qualified, and all other rules of selection are applicable only among those so qualified. No contractor however will be disqualified simply because he is a small contractor.

"(b) As between qualified contractors, the following factors will be considered in selecting facilities to accomplish the necessary readjustment and curtailment of production:

"(1) Privately-owned plants, not normally engaged in production of a military character, will be given first priority of release from war production in order to facilitate their reconversion to civilian production, due consideration being given to the wishes of the contractors.

"(2) Government-owned plants will be kept in operation or reserve until their production is clearly no longer required for military needs. This is subject to modification in the case of a plant located in an isolated section with no opportunity for displaced workers where the exercise of wise administrative discretion may prompt other action.

"(3) Insofar as practicable, the release to civilian production of competing units of the same industry should be simultaneous.

"(4) In scheduling the release of plants and industries, due consideration is to be given to cushioning the shock of unemployment.

"(5) In scheduling the release of plants or industries, due consideration is to be given to:

(a) Security considerations;

(b) Considerations affecting public transportation, such as accessibility to the sources of labor, raw materials, components, depots or storage facilities, and ultimate destination;

(c) The relative unit cost to the Government;

(d) The welfare of smaller business.

(*Continued on p. 62*)

Army Soon To Offer First Of 30,000 Vehicles

NPN Staff Writer

WASHINGTON — The vanguard of 30,000 assorted vehicles released by the U. S. Army as no longer needed for training purposes in this country soon will be available to the oil industry and other essential users, the Office of Surplus Property revealed this week.

According to an Army spokesman, the vehicles include 2000 passenger cars, 9000 motorcycles and 19,000 trucks, including command cars (trucks), weapon carriers, dump and cargo trucks, station wagons, and ambulances.

Oil companies, farmers, produce haulers and other essential users needing used Army vehicles were advised to apply for letters of certification at their county AAA-Farm Transportation Committee, or at regional offices of WPB, PAW, or ODT.

NATIONAL PETROLEUM NEWS
NPN
NEWSMAGAZINE FOR OIL MANAGEMENT MEN

4th Quarter Gasoline Quota Cut 77,000 b/d

NPN News Bureau

WASHINGTON—PAW's fourth quarter gasoline allocation is 1,173,000 b/d, down 77,000 b/d from the current quarter largely in reflection of normal seasonal decline in farm requirements.

Biggest surprise in figures is a 13,000 b/d cut in allocation to ODT for motor, truck, bus, taxi and other automotive use in Dist. 1, quota for the East Coast being set at 351,000 b/d compared with present 364,000 b/d. Automotive quotas for Dist. 2, 3 and 5 were increased slightly, as follows:

Dist. 2, from 380,000 to 383,000.
Dist. 3, from 120,000 to 125,000.
Dist. 5, from 122,000 to 125,000.

Quota for Dist. 4 remained the same as in the current quarter, being established at 29,000 b/d.

Total allocations by districts to all claimant agencies—ODT, War Food Administration for farm and non-highway use, and Office of Civilian Requirements for industrial and all other uses—follow:

Dist. 1—383,000 b/d, down 26,000.
Dist. 2—465,000, down 49,000.
Dist. 3—146,000, up 4000.
Dist. 4—33,000, down 5000.
Dist. 5—146,000, down 1000.

Justice Department Represents PAW in Humble Oil Case

NPN News Bureau

WASHINGTON — PAW and other government agencies involved will be represented by the Justice Department in Federal District Court in Dallas, Thursday in response to a show cause order in proceeding brought by Humble Oil & Refining Co. to prevent seizure of its Ingleside refinery. (*Another story, p.* 37.)

At the War Labor Board, meantime, it was reported there had been no new action in attempt to force company compliance with maintenance of membership clause in union contracts.

Morrill Urges Maine Marketers To Prepare Now To Share in Vast Postwar Prosperity

By Frank P. S. Glassey
NPN Staff Writer

AUGUSTA, ME. — Intensified, coordinated effort by Maine's oil marketers after the war to take full advantage of the greatest pent-up purchasing power in history was urged on Sept. 7 by Clyde Morrill, executive secretary of the Atlantic Coast Oil Conference, who was the principal speaker at the fall meeting of the Maine Independent Oil Marketers Assn. held at nearby Belgrade Lakes.

In the last three years, Mr. Morrill pointed out, the nation's consumers have saved 75 billion dollars due to the scarcity of things that might be bought. Before the end of the war, he said, savings of individuals will be equal to 15 years savings at the 1940 rate.

"Taking the percentage of the total national income that Maine enjoys, one-half of 1 per cent," Mr. Morrill continued, "and assuming that your customers are saving no more than citizens in other states, which I doubt—knowing the Maine people as I do—you can count upon a dammed-up purchasing power in Maine of at least $325,000,000. This may easily be 500 million by the end of the war."

About 40 jobbers and marketers from all parts of Maine attended the meeting, preceded by a dinner at the Belgrade Lakes Hotel. Ray Rideout, one of the directors of the association, presided at the meeting, which was followed by informal discussion and by Mr. Morrill's replies to questions from the floor.

Sees Big Diesel Market

There may be a developing market in Diesel oils as such engines come into greater use after the war, Mr. Morrill said.

"The huge development in such power," he added, "certainly indicates more general applications wherever power plants may be needed. Have you done anything yet to make contacts that might give you a Diesel engine agency or at least a working agreement whereby you may capitalize on this coming demand? Have you made any attempt with your supplier of fuel oils to learn how you may fit your oil marketing into a Diesel oil distribution? What is your supplier doing about developing a Diesel oil?"

"War has brought many new petroleum products," Mr. Morrill said, "—new types of lubricating oils, emulsifying oils, insecticides, to mention only a few. Others are in use that we know little of. What have you done to date to make sure that your supplier keeps you informed on new products? By showing an active intent to expand and energize your marketing you may put yourself in the front rank when refiners' merchandising plans for new products are being made."

Mr. Morrill said that one beneficial result of the "multiplicity of reports" that government regulation has made necessary has been the increased study of operation costs by independents.

"Cost of operation studies will be an after-the-war *must* if we are to meet the competition that will inevitably come with plenty of product and a healthy increase in consumer demand," he said. "You will have the buying power in Maine. You will certainly have the product. Find out to the last penny the cost per gallon of your terminal operation where you have one.

"Know your delivery costs, both transport and retail truck delivery. Break down your costs into headings that will show you labor costs per gallon, office maintenance costs per gallon, etc., and swap costs with other similar operators wherever you have the opportunity. Studies of this sort will make you invulnerable, when competition demands that you operate on an efficient base or yield your market."

Mr. Morrill told the members of his audience that they "are on the verge of a reconstruction period that will be followed by a huge demand in Maine for products that you will sell. You will market those products in a period of fierce competition. You will be harried by government bureaucrats who will hate to let go the war controls. With everybody's shoulder to the wheel you can move the independents into a constantly improved position. Alone, you will be subject to every economic wind that blows.

"If we are industry conscious," Mr. Morrill concluded, "we should seek to define the principles of business, and the policies that guide us in which we all as oil distributors agree.

"We will find if we explore this carefully that the area agreement between ourselves as independents and the integrated companies in marketing is much larger than the area of disagreement. If we bring to negotiation and conferences with the larger business interests a desire to solve our problems, starting with what we can agree on, we will have a spirit of negotiation that will settle our differences. Let's get the emphasis where it belongs. We are part of a great industry, each one of us. You can make it greater—in Maine."

After the general meeting, the directors of the association held a brief business session, headed by Frank A. Lathe, M.I.O.M. president.

Ranney Claims Success for Horizontal Wells

Special to NPN

FRANKLIN, Pa.—Leo Ranney, technical advisor of Venango Development Corp. and a pioneer in development of horizontal drilling methods, has revealed production figures for a period of 180 days ending Sept. 2 at his Ranneywell installation at Two Mile Run, near here (*See NPN July* 7, 1943, *p.* 35 *and Feb.* 16, 1944, *p.* 30).

Production, Mr. Ranney reports, has averaged 28 gallons of oil per acre tapped per day. This, he says, is 56 times as much oil per acre per day as was produced by the vertical wells on the lease, under 25 points of vacuum, pumping 24 hours per day, in 1940 and 1941.

With only ten acres of the 400-acre tract under development subjected to gravity drainage by the Ranney horizontal wells for a period of 180 days, with only one of the wells now producing shot, and with 15 points of vacuum applied to the installation for the past 20 days, this record has been attained, Mr. Ranney said.

As much oil per acre will be produced in one year as the vertical wells, at the 1940 rate, would recover in 50 years, Mr. Ranney asserted, basing his prediction on the fact that during the first 20 days after vacuum was first applied, production measurably increased, although the full value of the increase does not fully appear in the 6-month comparison. With completion of the 24 projected wells of the Venango installation, shot and placed on full production for one year, and after the wells have settled, he said, this sensational recovery will be attained.

The 400-acre lease of the Venango Development Corp. has been producing oil for 80 years. During this time recovery totaled 640 bbls. per acre, an average of 8 bbls. per acre per year, or less than one gallon per acre per day. In 1940 and 1941, the years taken by Mr. Ranney for comparison with the horizontal wells, the production on the 400 acres, he said, amounted to 1,800 barrels per year, or about one-half gallon per acre per day. Some 400 wells were drilled on the lease, one well to each four acres.

"If horizontal wells had been drilled initially, the 80 years' production on this lease could have been obtained in less than two years," Mr. Ranney asserted. The horizontal wells have produced as much oil per acre in six months as would have been recovered by vertical wells, at the 1940 rate, in 28 years. And the horizontal wells pass within 10 to 100 feet of several old vertical wells where, presumably, the sand has been fairly well stripped of oil.

Commenting on the outlook for the development, Mr. Ranney said that, in comparison with the 100-vertical-well development on this 400 acres, only one pump would operate the 24 wells radiating from the shaft, and this would be operated by one man pressing a button. This method will reduce costs, he said, predicting that one year after completion the 24 wells would "settle" to a total production of 240 barrels per day.

With Warren Platt in England—

NPN Editor Boards Tanker for France to Follow Oil Supply Route

Describes Busy Harbor Scene Where Ships of All Kinds Assemble To Be Convoyed Across Channel

By Warren C. Platt

ABOARD A WAR TANKER EN-ROUTE TO FRANCE—This story was to have been written at Army POL (Petrol, Oil & Lubricants) Headquarters in France from which is directed the transportation of petroleum products for the machines of war from "the beach" to the battle lines—for machines that are rapidly pushing those lines out over France, even to Paris and well on to the German border.

Mr. Platt

But instead of being up with the dust and the crowded miles of motor-driven battle traffic, with the rumble of guns not many miles distant, reasons of war and weather dictate my staying in a comfortable cabin high on the bridge deck of a big Shell tanker which is lying at anchor in water as peaceful as you can imagine with the rich green hills of England rising on either side. A radio is bringing opera music from a junior officer's cabin on the deck below while from a nearby ship comes the syncopation of an American jazz band.

These sounds of peace and pleasure however are misleading. Around me, as far as the eye can see, up and down this harbor, are more than 100 ships of modern war. They are not navy fighting craft but army supply ships. They are of every size and kind used in today's highly-mechanized and petroleum-driven war. Their odd and incongruous shapes are menacing. On their decks are packed trucks and trailers of war, tank trucks and armor, full track and half track. Sharpening the outlines of this death-dealing stuff are the brown uniforms of the soldiers who fight with it. From a distance, this brown forms a background that sharpens the length of the gun barrels. From every deck and reaching out of black-armored nests at many points above decks on all these cargo and troop ships, are guns, big and little. Floating overhead are balloons held captive to each ship by 1000-foot wire cables, to entangle daring enemy planes.

This tanker, itself, tells the enemy these are war times. Instead of the long, wide conventional glass windows across its bridge, there are small port holes cut in heavy re-enforced armor plate. Even the vision through these, for the watchful eyes of the deck officer, can be reduced to one-inch slits by pulling down thick metal covers when bullets fly. At each end of the flying bridge an armored nest commands the length of the ship with a protruding machine gun. Similar defenses protect other strategic points of the ship. Then there are several really large guns.

Below decks are more than 5,000,000 gals. of fighting 100-Octane aviation gasoline and 80-Octane All Purpose for the air and land equipment of our armies.

It is a ship of battle and death today, whether its cargo goes into the fighting machines or is set off by aircraft bomb or submarine torpedo. Most skippers give us a wide berth but an American captain, a few hours ago, dropped his Liberty ship down the tide and casually cast his "hook" but a short distance from our stern, too close in fact, but as if to be handy to the fuel for all the war machinery piled high on his decks.

Oil's Part in War

Even though I cannot now, over in France, write the story of the streams of vehicles and miles of pipelines, the same as were used in North Africa, that carry petroleum products to the battle lines, there is still enough of war and oil in the events of the past few days, while on this ship, to make a chapter, at least, in the great story of the part oil is taking in this war.

Anyway, in this week-to-week report I cannot order my chapter subjects because, just as now, I cannot control my own movements. At lunch today a young officer hopefully hazarded a guess that perhaps we would be ordered to the Mediterranean to deliver our fighting cargo to the Allies' great effort in Southern France. The skipper did not think so, but who knows? The armies are moving rapidly farther and farther from their first supply bases. War's victories and exigencies do not wait on the longings of junior officers for warmer climates or on the wishes of correspondents to "cover" a particular story. Nor does war consider the correspondent's personal inconvenience in making an unexpected many weeks' trip with but one spare shirt planned to last 10 days at the most.

But regardless of where this correspondent and his spare shirt and this war tanker may wind up, the next story, I am certain, will contain at least some of the facts to support what I already know of the kind of job oil men are doing as officers in the two armies, in moving oil supplies up to the ever rapidly advancing battle lines in France. Whether I see those real supply lines in the north or in the south of France, the story will be much the same—that oil men are getting oil over to France and up to the fighting lines as needed.

This story really starts a couple of weeks back when I had lunch, in London, with two American oil men who, at the moment, are colonels having to do with getting oil supplies from "the beach" up to in behind the battle lines where the fighting vehicles and machines return, momentarily, to pick up more motor fuel. These men came to London to check up with their associates on getting oil supplies. One colonel also took his first bath in a week while the other collected his clothes to depart for France for the duration. Later on, I hope to give their names and the kind of a job they are doing, but to undertake to do so now, I am afraid, would hold up this report.

At the time of that lunch in London the battle in France was showing indications that the Allied armies might win a "break-through," might perhaps even throw the enemy into a panic retreat. If that panic took place, these two colonels said, the many oil men, moving motor fuel to the front, would be faced with the biggest and most important job of their lives because the extent to which the Allied armies could take advantage of such demoralization of the enemy would depend on the amount of motor fuel our fighting equipment could get. The job that faced these oil men was to make sure that this fuel was at every possible point where it might be needed, including points that could only develop in the course of the fighting. No matter how fast and how far the armies traveled, enough petroleum had to be right there so they could travel a bit faster and still further if they could. Any less performance by these oil men would be a catastrophe.

A Night on a Tanker

From all reports no shortage occurred. We have the swift advance of the armies to prove the great quantity of motor fuel supplied as well as private information confirming that sufficiency. Concluded the oil colonels to the writer: "If you want to see oil distribution in full battle array, get over to France when the expected 'break-through' is in full blast."

This the writer has endeavored to do but here he is on a big war-built Shell tanker hung up in a convoy across the channel from the "far shore" where the "break-through" is demanding — and getting—more petroleum than in any previous battle in this or any other war.

However, it is not "unpleasant"—a favorite British under-statement — to spend the night and now the day and part of another night, in a harbor well-guarded from that great hazard to shipping in this war—the submarine—the hazard which has knocked out so many tankers.

We were working along in a good-sized convoy on a flat sea the other afternoon. The sun was shining and the

writer was enjoying the quiet and warmth of it all perched on a ledge on the bridge, when there came a loud clang from the ship as if a giant had swung a mastodonic sledge hammer against her side and deck plates. It was the detonation carried through the water from a depth bomb dropped several miles away by one of our protectors seeking vengeance on a suspected sub. More clangs followed but whether they got the sub we on the tanker had no way of knowing.

Then again the next afternoon, in a beautiful, glassy sea, came more blows from that mighty sledge hammer. More destroyers appeared and hurried around. Further detonations clanged with vicious portent on our steel sides even well into the night. The morning found the sea smooth and peaceful and only our corvette was chugging at the head of the columns.

Maybe there wasn't any submarine at all. Maybe the skipper of one of these protecting craft had a nervous trigger finger and an overly suspicious mind. Some of the young officers on the bridge of this tanker rather lightly speculated on such a possibility, because, with their best binoculars, they could find no trace of wreckage on the becalmed sea. These young men were entitled to some serious consideration of their speculations as they had seen real encounters with subs, had seen ships sunk and men killed. These young men are to be the ship captains of tomorow's merchant marine. They are the products of the training schools both Britain and America are using to train men for the sea.

But our skipper shut off their speculation. Said he, as he appeared on the bridge as the third depth bomb reverberated through the ship, and tying on his life preserver:

"When the Navy drops those bombs that close and regularly, I get on my life preserver and if you recall the standing order for this ship is that every one does the same, because if the Navy's suspicions should be correct and if something hit us, you don't have much time —especially on a tanker loaded with volatile high-powered gasoline."

Thereupon we began lugging around our life preservers, and that night we slept in heavy warm shirts, socks and our pants, just as the skipper did. You have to be out of bed and in the life boats and away in 4 to 5 minutes—and sometimes that is not time enough.

Life on an Oil Tanker

In the next few hours I dug out first hand personal facts of the big and perilous job oil tankers and their sailors have done the five years of this war. It is a story we all probably have read, a story of many tankers lost, of many men burned and drowned, and a story of more and more tankers being launched and continuing to go to sea despite the hazard to the crews. For a long time now, according to official figures, we in the U. S. have been putting a new tanker into service every day. What is almost more encouraging to the country is that we have always gotten the crews and the officers to man these new tankers regardless of what happens when a torpedo hits into the guts of a loaded tanker, as against hitting into the guts of a less combustible cargo. But reading about them and being in a loaded tanker when subs may be nosing about are two different things. Tanker crews may say little but they are quite conscious of the final hazard.

The skipper of this Shell tanker, it appeared, had been first officer on another Shell tanker, the "Ensis" which got three torpedoes in her in the days when enemy subs were most numerous and busiest. It happened in the North Atlantic just half way across. Fortunately, the ship was coming to the U. S. for cargo and had only water for ballast in her tanks. Consequently there was no fire, but the holes in her sides were big enough to drive two trucks abreast into her. I saw the photographs. The crew climbed into the boats as they did not see how the ship, with its back apparently broken, could stay together. For a day they hung around her, shivering in the freezing weather. But the tanker still floated so they climbed back into her, losing several boats in the rising sea but no men. They fired up the boilers and took her into Halifax.

That is how the skipper had first-hand evidence of the need for a healthy respect for subs.

On the next watch, I found the first officer lugging a life preserver and finally got his story. He was first officer on still another Shell tanker, the "Donovania". She was coming into Trinidad for cargo in July, 1942, when three torpedoes went into her. It was about 4:30 of a black morning. One hit her engine and bunker fuel tank and deck engine and all went up in the air. Fire started. Fourteen men were killed by the explosion and fire, and many injured. All alive took to the boats or were helped

R. A. F. Starts Fire in St. Nazaire Refinery

Press Association Photo

This official British photo shows an oil refinery at Donges, near St. Nazaire, France, after a recent British R.A.F. bomber command attack—the first of two such blows. The smoke is rising from a burning storage tank

into them in 3¼ minutes. This first officer had 22 men in his life boat but the only ones well enough to pull at the oars were two young cadets. The sea was rolling in a heavy swell. After drifting for 8 hours they were picked up by a destroyer.

Eluding the Submarines

Then I found that the third officer had been on a tanker in a big convoy this last spring carrying American troops across the Atlantic. The tanker held gasoline. Enemy subs spent two days trying to put a torpedo into this prize but could not get past the guard of the American Navy. However, the men on the tanker of gasoline were fully aware of what a torpedo into it would surely mean.

Also I found on our tanker, a young cadet who two years ago on the North Atlantic run and also on a tanker, saw a torpedo hit a cargo of gasoline amidships. Part of the ship went up in the air and the rest almost immediately dropped beneath the waves.

Even though we up on our bridge may have wondered if the skipper of one of our protecting craft may not have been overly suspicious, we were glad to see half a dozen destroyers and corvettes skooting around and we were glad to hear the loud clang of their depth bombs against our plates. And last night it was not "unpleasant" to be tucked into a large, quiet and safe harbor for a good night's sleep in pajamas and under the vigilance of the British Navy on guard at the harbor's entrance.

* * *

A big job has been done in the management of our tankers both by the men at Washington and New York and the oil men in London. New and important records on "turn around" have been made and loading and unloading time has been cut to new lows. This greater efficiency in management of tankers did the work that several hundred more tankers would have had to do or, to state it another way, this efficiency accounted for the transportation of many hundreds of millions of additional gallons that sent tens of thousands more men and trucks and armor against the enemy. For all this service, the oil industry could well give some recognition in a formal manner, could well pay a debt of gratitude to oil men on both sides of the Atlantic.

But the oil industry also owes and should pay its recognition to the men who sail its tankers; to the men who for many hundreds of days and nights have stood on bridges, and worked on decks and deep in engine and fire rooms in order to transport the fuel to where it could defeat the enemy and despite the enemy's great packs of submarines and raiders. To each of these tanker men, and to the families of those who lost their lives, the international oil industry could well give evidence of its appreciation in formal and even substantial manner. It could give this evidence in such manner that every oil man and his family in the world would know of the job these tanker men have done, and also so that every public official would likewise know and honor these tanker men for their great service to their countries.

* * *

For how much the convoy of the past few days and the 100 and more ships lying in this sunny harbor, depend on oil to do their part in this war, we went to the chief engineer of this tanker. During this trip down he had been watching the funnels of the other ships and on our suggestion he checked the funnels of those lying in the harbor. It was his opinion that but two or three ships of the convoy and no more than five or six of those at present in the harbor burn coal. The majority are Diesel driven and the rest are oil burners—oil powers the attack!

A pilot has just come aboard and starts us down the channel to France, northern France. It is pitch black. After some flickering with telegraphic lights to the commodore's ship, we kind of whisper our way into the channel and outside. Whisper is the right word for most of the ship is asleep and the only sound as the ship proceeds at half speed, is the gentle slap, slap, slap of the water against her bow, so gentle one well can call them "whispers in the night."

We stand in the deep darkness alongside the pilot, the skipper and a mate, trying to match their eyesight into the night, eyesight that sees shapes of ships where we do not see any change in the black of the night. How they do it is beyond us.

We clear the harbor lights in thick silence. The pilot drops into his waiting launch and the ship proceeds on to France. And we go to bed—with a heavy pair of wool pants on, also a wool shirt and wool socks, all in pursuance to the captain's advice to at least be a bit warm if an "incident" comes.

* * *

THE FOLLOWING MORNING IN FRANCE—No "incidents" so we deliver this report as written yesterday and last night to the army authorities for transmission to censor and then home.

Sidelights on English Industry-Union Relations

LONDON—Industry over here seems to have about the same trouble in getting its virtues known to the general public as we do in the U. S.

Says Sir Charles Craven, head of the big Vickers-Armstrong manufacturing enterprises in *Sunday's London Times* which is running a series of postwar discussions—

"By and large this machinery (of industry and labor's direct negotiations on terms of employment) has worked very well, and I feel that both sides in industry have done a better war job than the public realizes.

"Generally speaking, the country hears most about the troubles in industry. I sometimes think it hears nothing else. It certainly hears little about the good things in industry, the successes, the smooth working, the goodwill and the happy relations that exist over by far the greater field of industry, and the solid, outstanding achievements in this war of managements and workpeople . . .

"There must be discipline on both sides (after the war). The unions must control their members, and that applies particularly to the young people. Employers sometimes need discipline, too, and it is therefore important that all employers, large and small, should be members of the Federation of their industry . . .

"I am all for trade union membership. I would not try and force men into unions but I prefer to have unions with which I can negotiate . . .

"Finally, I want to utter a word of warning. It is this—

"In peace-time let governments and ministers keep out of the delicate business of building and maintaining good industrial relations, except in so far as the government of the day may need to exercise general oversight.

"The business of goodwill can best be left to those on both sides who have to direct and man industry. They have shown they can get excellent results in war. Give them a chance to show that they can also get them in the big job of building prosperity in peace."

* * *

In a parallel column Joseph Hallsworth, a leading labor authority, in speaking for collaboration in postwar between labor and employes and labor's desire for participation in discussions concerning its work, makes the following point which strikes direct at the heart of much of the labor union trouble back home:

"It is important to remember that it is more difficult to maintain discipline among hundreds of thousands of workers than among relatively few employers.

"That makes it very essential that unions should consult their members in advance of industrial settlements as far as possible. A lot of trouble has been caused by a lack of sufficiently close contact between union negotiators and their members.

"There is a great tendency toward centralization in negotiation and bargaining, so that the rank and file are imperfectly informed, and, therefore, do not always understand the nature of the arrangements made on their behalf. Closer and more constant consultation between leaders and their members will make for better understanding and settlement in industry."—W.C.P.

Top OPA Officials Hint Revocation of 'R' Ban; Order May Come as Farming Season Wanes

BULLETIN

WASHINGTON—NPN learned authoritatively at presstime that OPA now plans to announce either complete revocation or substantial modification of Amendment 111 to RO5C —the ban on exchange of "R" coupons at service stations—the early part of next week. Effectiveness of change will occur four days after announcement.

By James Collins
NPN Staff Writer

WASHINGTON — The well-known ban on exchange of "R" coupons at service stations, except under certain limited conditions, which has been battered from pillar to post for several months, has once again become an item of serious discussion among top-side policy makers in OPA.

The chances for revocation of the ban appear to be greater now than at any time in the past, inasmuch as one official in OPA who has repeatedly indicated "no action now" has finally come out flat-footed for revocation. This official, Richard C. Harrison, director of OPA's automotive products rationing division, said this week at a meeting of top rationing policy makers that he was now for revocation.

As far as can be ascertained, the feeling at the operating level in OPA is now unanimous that the ban should be lifted. Inasmuch as other agencies concerned, such as War Food Administration and PAW, are now no longer standing in the way of revocation, the final decision is now apparently right in the lap of high OPA officials.

Here is what happened in the past week to bring the question to a head within OPA:

The official who is temporarily acting as OPA deputy rationing administrator—until the arrival of Maxwell McCullough who was appointed successor to Charles F. Phillips in that post—decided this week to "bone up" on the gasoline rationing situation, particularly as regards the main trouble spots, inasmuch as it will be his responsibility until McCullough arrives, and because up to now his job has dealt mainly with such problems as food rationing. In line with his decision he called together several rationing officials, including Mr. Harrison. At this meeting the first order of business was a searching analysis of the effects of the "R" ban.

Sums Up for NPN

The acting deputy, Jerome M. Ney, later summed up for NPN the results of the meeting with the remark that Mr. Harrison now recommended revocation of the ban.

Until this week the question had not occupied the active attention of those near the top in OPA, although it has been under consideration for weeks, and months, by OPA and the other interested agencies—PAW and WFA.

At one time Mr. Phillips, who left OPA a week ago to become president of Bates College at Lewiston, Me., was preparing to issue an amendment revoking the "R" ban. However, he decided at the last minute to withhold action while he consulted with industry advisory committee members and officials of other government agencies. The result was an indefinite stay of action, despite the fact that a later, more thorough canvass of industry's feelings late in June showed that the great majority of both large and small operators strongly favored revocation.

This canvass showed on July 1, the deadline set by OPA for replies, 14 were for revocation of the ban and 6 were in favor of retaining it, or even tightening it. Among the 14 favoring revocation were major companies as well as independent oil marketers. Some of the majors, in fact, used stronger language than those representing the independents, even going so far as to point out to OPA that, because of the ban, diversion of business away from the small operators had resulted, should be stopped and corrected.

Convinced, Then Wavers

Some time after the survey wound up, Mr. Phillips notified Mr. Harrison that he should settle the matter within his own division, and then pass on a recommendation to him, Phillips, for final decision.

Then followed a period in which several officials under Harrison presented concrete supporting evidence for wiping the ban off the books, but he stood firm against the revocation pressure, stating as his reason that not enough time had elapsed properly to judge the effect of the ban.

At one point a few weeks ago Mr. Harrison is said to have been wavering toward revocation, but just then new gasoline consumption "flowback" figures became available indicating a non-highway consumption during June 100,000 b/d greater than the same month in 1943. Instead of convincing him that the ban should be lifted forthwith, however, these figures were considered by Harrison, it is said, as proof of the need for a ban on exchange of "R" coupons at service stations on the theory that if there had been none, consumption would have been even higher, and that therefore the ban must have been accomplishing something.

Following the revelation by Mr. Ney that Harrison had recommended revocation of the ban at the meeting mentioned above, NPN asked the automotive products rationing director the reason for his change of heart on the question. He replied that the ban "obviously" has been a failure, that it had not cut down non-highway gasoline consumption although it had definitely reduced the transfer of "R" coupons at metropolitan service stations.

When questioned as to why he had not been able to determine weeks ago from flowback figures that consumption had not been cut by the ban, Harrison said that it had not been in effect long enough to judge its good or bad effects. (Note: Non-highway gasoline consumption since the ban went into effect in April has been higher each month this year than last, without exception, according to figures gathered by OPA: April 1943—219,000 b/d, April 1944—229,000; May, 1943—259,000 b/d, May, 1944—291,000; June, 1943—258,000 b/d, June 1944—360,000.

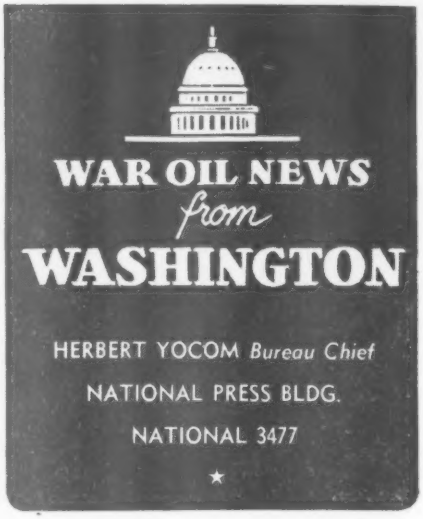
Figures for the other months are: 1943—July, 266,000 b/d, August, 257,000 b/d, September, 304,000 b/d, October 284,000 b/d, November, 243,000 b/d, December, 187,000 b/d, 1944—January, 150,000 b/d, February, 150,000 b/d, and March, 191,000 b/d).

OPA Legalizes Acceptance of Loose A-12 Coupons

NPN News Bureau

WASHINGTON — OPA this week announced issuance of Amendment 151 to RO 5C which permits service stations to accept gasoline rationing coupons numbered A-12 that are detached and loose from the ration book (*see NPN Sept. 6, p. 14*). Amendment currently applies only outside Dist. 1 because A-12 coupons are not yet valid for use in Eastern states.

Loose A-12 coupons transferred, however, must carry proper endorsement of ration book holder's license number, OPA warned, adding that because such coupons may be used, "it is now more important than ever for gasoline station operators and attendants to check the license number of all coupons with that of the customer's car."



Scientific and Technical Petroleum Development Available to Japs in U. S. Before the War

NPN News Bureau

WASHINGTON — A Department of Justice official this week described to a Senate committee how Japanese firms —with the official approval of the U. S. State, War and Navy Departments— were able to get valuable technical information on oil by outright purchase, or through incidental observations or detailed inquiries in the course of business visits to the U. S.

Appearing before Senator Kilgore's (West Virginia) committee on war mobilization, James S. Martin, Chief of the Justice Department's Economic Warfare Section, purported to describe how in the decade prior to Pearl Harbor a constant stream of oil information, which was of the utmost importance to Japan's armed forces, flowed to Japan from this country.

Although in an introduction to his statement Mr. Martin said the flow of information involved not only oil, but aircraft, machinery and tools, electricity, and electronics as well, he devoted his testimony almost exclusively to oil, and particularly to alleged agreements between the Japs and the Universal Oil Products Co.

Files Made Available

The Justice Department official made it clear, however, that (1) U.O.P. had first received the official blessing of the U. S. government before going ahead with proposed agreements with Japanese firms, and (2) that this American firm "is not presently involved in a Department of Justice prosecution."

From files made available by U.O.P., and an examination of files seized at the outbreak of the war from former Japanese trading companies in the U. S., Mr. Martin told the committee, it is "indicated" that the Japs were able to get technical know-how of some processes for production of 100 octane aviation gasoline before they were generally available to American firms, and "in at least one case as late as June, 1941, to find out through commercial channels the amount of our oil and gasoline shipments to Pearl Harbor."

In his attack on the "ordinary commercial arrangements" which permitted the Japanese to learn much of important oil technical processes, Mr. Martin traced the transactions which took place between U.O.P. and the Japan Gasoline Co., of Osaka, Japan, starting in 1928 and extending through 1937 when the Jap firm commenced negotiations with Universal for all of its rights in the entire petroleum field, which was stimulated by the increasing importance of certain blending agents and catalysts for making high octane gasoline.

The 1937 negotiations, Mr. Martin told the Senate group, resulted in three options: The first, entitled "principal memorandum of understanding", gave to Japan Gasoline Co. rights to processes for manufacture of iso-octane; the second provided comprehensive terms by which Japan Gasoline Co. could acquire rights under all of U.O.P.'s processes, including dehydrogenation, isomerization, cyclization and alkylation, and the third option merely expanded the rights under the old 1928 contract, covering the Dubbs process, to all of Manchukuo.

First option, dealing with iso-octane, was exercised by Japan by payment of $600,000 and U.O.P. immediately prepared designs for construction of two iso-octane units for the Mitsubishi Oil Co. and Nippon Oil Co., licensees of the Japan Gasoline Co. Plant designs were delivered to the Japanese and in 1939 Universal engineers were sent to Japan to aid in the construction of these plants, Mr. Martin said.

U. S. Officials Notified

However, Mr. Martin pointed out, before the option agreement was signed, U.O.P. informed both the War and State Departments of the desire of the Japanese to obtain the rights to the iso-octane processes.

Approval, Martin said, was given to the iso-octane transaction on Sept. 3, 1938, in a letter from the State Department signed by Charles W. Yost, acting chief of the Office of Arms and Munitions Control. The letter of approval read as follows:

"By reference from the War Department, I acknowledge the receipt of your letter of July 28, 1938, in regard to your desire to install in plants in foreign countries your process for the production of iso-octane fuel.

"The Acting Secretary of War has informed me under date of August 31, 1938, that there is no objection on the part of either the War Department or the Navy Department, on the ground of military secrecy in its relation to the national defense, to the installation of the above-mentioned process in plants in any foreign country.

"The Acting Secretary of War adds that both the War Department and the Navy Department appreciate the patriotic interest evidenced by your company in submitting this important matter for consideration."

OPA Creates 'Secret Service' On Rationing

NPN News Bureau

WASHINGTON—OPA this week revealed that it has set up a "secret service" of its own to catch counterfeiters, peddlers and purchasers of ration coupons, which is staffed with special agents authorized to make arrests—an exceptional power not given to any other OPA investigators.

OPA disclosed creation of its new "currency protection branch" in connection with arrest in New York City last week of four alleged counterfeiters and the seizure of a press and equipment ready to print almost 5,000,000 counterfeit gasoline coupons. These coupons would have been good for almost 25,000,000 gal. of gasoline and worth $3,500,000 on the black market, OPA said.

This arrest and seizure made by special agents of the branch and secret service operatives, brings to 15 the number of sets of counterfeiting equipment captured since the first of the year. The new branch has been set up under supervision of Robert R. Ehrlich, OPA chief investigator. Special agents are under immediate direction of his assistant, Reginald Watt.

The currency protection branch has been set up as a centralized, mobile organization, patterned after and with the advice of Secret Service, and other investigative agencies of the Treasury Department, which have co-operated with OPA in many ways.

1. Special agents start their service by attending the criminal investigation courses given by the Treasury Department for its own operatives.

2. Secret Service's central files on criminal characters are fully available to branch, and there is a close working relationship and free inter-change of information between the two agencies in the field.

3. The men in Washington directly in charge of co-ordinating the branch's field investigations have been loaned to OPA by Secret Service.

U.O.P. Owners May Transfer Stock to Technical Schools

NPN News Bureau

WASHINGTON—The eight large oil companies owning Universal Oil Products Co. are now studying plans to divest themselves completely of their investment, according to a statement issued in Chicago by J. D. Alther, acting president of Universal Oil since the recent death of President Halle.

The eight owners named by Mr. Alther were Standard of Indiana, Standard of New Jersey, Standard of California, Shell, The Texas Co., Gulf, Phillips and Atlantic. In admitting that they were planning to get out from under their holdings, Mr. Alther confirmed reports that they would either dissolve U.O.P. completely or give the stock to various technical schools as an endowment. According to Mr. Alther the latter procedure is now being studied.

Speculative reasons for this action by the shareholders is primarily the recent investigation of Universal Oil by the U.S. Department of Justice. There are, how-

ever, three suits pending in the courts against the company.

One suit for approximately $18,500,000 was filed in Federal Court here last spring by Dean Cauffield Daily of Los Angeles, representing stockholders of the old Sunset Oil Refining Co. Another suit asking for an accounting and claiming a 20% interest in certain stocks, dividends and other interests was filed in state court here recently by Leeland Dubbs, a son of Jesse Dubbs, originator of the Dubbs refining process, against his brother Carbon P. Dubbs and U. O. P. The third suit involves patent rights to certain other refining processes, was brought by Shell Oil Co. and is now pending in Federal Court at Wilmington, Del., according to Mr. Alther.

However, Mr. Alther ascribed competitive reasons for the move of the oil companies to shift their holdings to others. U. O. P., he said, was primarily a champion of small refiners, who could not afford elaborate and expensive research departments of its own in order to keep abreast of refining process developments. He asserted transfer of ownership of the company by endowment to technical schools would be of great benefit by clarifying the competitive situation. The large oil companies, he said, have research departments of their own, do not need U. O. P.

PAW Materials Chief Says 'X-Day' of Victory May Ease Materials—But It's Not Here Yet

NPN News Bureau

WASHINGTON—While warning that the "X-Day" of German defeat is still an unknown quantity, PAW Materials Director Parsons this week told the P.I.W.C. Production Committee that military cutbacks at the end of the European war would change the materials picture "materially."

"Then, we hope, we can go home," said Mr. Parsons, apparently giving voice to the now common belief in Washington oil circles that the need for most of PAW's controls on materials will vanish with the collapse of Germany. He emphasized that in the meantime PAW must be realistic and proceed on the basis "that the war is not yet over."

While the supply of materials for the industry as a whole has improved, Mr. Parsons said that in the future outlook "there should be a realization that practically all of the foreign petroleum drilling programs are expanding, and the rehabilitation of reconquered oil fields will come into the picture.

Reviewing the materials picture at present, Mr. Parsons said that WPB cut PAW's fourth quarter claims for oil industry steel 20,000 tons or 4 per cent of total estimated requirements "on a contention that our inventories of oil country tubular goods were excessive." He added PAW did not have firm inventory figures immediately to refute this contention, so agreed to cut while reserving the right to ask for reinstatement if a check shows inventories are not excessive.

Mr. Parsons gave the committee the following review:

INTERNAL COMBUSTION ENGINES: Deliveries continue to improve. In the vertical liquid-cooled engines, actual deliveries were 1211 in the first quarter, 2595 in the second quarter, and 921 in the month of July.

LUMBER: "We prosecuted our fourth quarter claim, defended it against excessive cutbacks, and have received an allotment which we believe will take care of the most essential petroleum needs."

TRUCKS: The Emergency Truck Plan determined that 551 trucks were needed—154 heavy, 227 medium, and 171 light. Office of Defense Transportation decided that they could and would take care of all our emergency needs for heavy and medium trucks out of their civilian pool. Operators are presenting their applications. As to light trucks, the ODT pool was exhausted, but the Army is releasing a considerable number of used light trucks.

HEAVY TRUCK TIRES: Although the going may be tough in spots, the petroleum industry should benefit as a whole because it is the only industry with a No. 1 priority.

DRILL PIPE AND TOOL JOINTS: Due to the extremely large number of rotary rigs in operation and to the fact that the number is steadily increasing, we expect many difficulties during the fourth quarter because the production of drill pipe and tool joints can not be increased proportionately.

PUMPING UNITS: Units manufactured in July totaled 813, compared with 750 in April, 846 in May and 753 in June. Backlog of orders increased from 5744 in April to 6601 in July.

* * *

Steel for Oil Cut Slightly By WPB for 4th Quarter

NPN News Bureau

WASHINGTON—In its allotment of controlled materials for the fourth quarter to PAW, WPB has allowed production operations 237,050 tons of carbon steel and 40,500 tons of alloy steel, cutting back PAW's requests by 7,950 tons and 9,500 tons, respectively, P.I.W.C.'s production committee was told this week. However, WPB allotted 20,000 tons of carbon steel and 5,000 tons of alloy steel for maintenance, repair and operating in the production branch, meeting fully PAW's requests.

The PAW production division also reported following developments to P.I.W.C. committee:

1. Handling of all 42-A (special) draft deferment cases for Dists. 2, 3 and 5, was transferred on Sept. 1 from PAW national office to district offices in line with recent appointment of manpower counselors for those areas.

2. Fourteen wells have been completed in development of Elk Hills field with production averaging some 3,400 b/d. First few wells were completed just west of previously developed Tupman area and produced crude with average gravity of 19 degrees A.P.I., compared with average 22.3 degrees gravity in Tupman area. "It has been necessary to revise the originally programmed drilling schedule to provide a rather extensive semi-exploratory plan to determine which undeveloped areas will yield a crude oil comparable with that produced from Tupman area."

3. Continued expansion of full-scale and pilot secondary recovery operations "is contributing a substantial amount of increased productive capacity for the crude oil production program."

4. July crude production reached new all-time peak of about 4,600,000 b/d, exceeding June withdrawals by 25,000 b/d.

5. Actively drilling wells on Aug. 1 totaled 3,469—near peak level of 3,605 on same date in 1941—but "despite continued upward trend in active wells, the actual completion rate is still considerably below the 1941 level for the U. S. as a whole."

Rotary Rigs Set Record

6. Rotary rigs running set new records in July and August, totaling 1,634 and 1,680, respectively, but it is indicated that the sharp upward trend of the last eight months will begin to taper off unless new rigs being made available each month increase beyond current level of about 30 to 35.

7. Wildcat completions in July totaled 374, an increase of 34 over June. There were 846 exploratory wells being drilled at end of July. Percentage of successful exploratory completions increased from 16.2% in June to 18.7% in July.

8. Total of 481 geophysical and core drilling units were active in U. S. during July, an increase of six crews over June level of activity, and a gain of about 72 crews since first of year. Type and number of crews active during July were: Seismograph—290, gravity meter—124, magnetometer—17, core drill—47, torsion balance—1, and electric resistivity methods—2.

Fuel Oil Coupons Extended

NPN News Bureau

WASHINGTON—Period 4 and 5 fuel oil coupons, originally slated to expire Sept. 30, will be valid throughout the coming heating year along with definite value coupons left over from this year's ration, OPA announced this week. (*See NPN Aug.* 23).

Extending the validity of coupons will save time of consumers and local boards, OPA said, by making it unnecessary for fuel-oil users to exchange unused coupons for ones good through 1944-45 heating year. OPA's amended order extends coupon validity until Aug. 31, 1945. Action was taken in Amdt. 25 to RO 11, effective Sept. 11.

Brookings Report on World Oil Control Urges Scrapping German and Jap Synthetic Plants

By Herbert A. Yocom,
Chief, NPN Washington Bureau

WASHINGTON — A possible clue to the type of postwar oil controls to be imposed on Germany and Japan at the peace table was provided here this week in a special study of the Brookings Institution which concluded that economic measures against aggressor nations will be effective only if backed by military force.

It suggests, among other things, scrapping of the German and Japanese synthetic oil industries.

The study was written by Dr. Harold G. Moulton, president of the Institution, and Dr. Louis Marlio, French economist and industrialist.

Drs. Moulton and Marlio reject most of the economic plans that have been suggested to assure against future German and Japanese aggression as inadequate and impracticable, but agree on a select few.

The key to their ideas on oil is in their finding that an effective system of military control must envisage "an overwhelming superiority in the air on the part of the controlling countries."

One way to facilitate effective supervision would be to control the two principal supporting industries of aviation —aluminum and petroleum.

Oil Control for Germany

On the oil measures that could be most easily and effectively taken, the study reaches the following conclusions:

FOR GERMANY: It would be next to impossible to prevent the accumulation of oil supplies for war purposes by controlling imports, on which Germany has been dependent for 80 per cent of her supply of natural oil.

An accelerated depletion of Romanian oil wells would be helpful in crippling German war power.

Because Germany now depends on synthetic production for more than 40 per cent of her supplies, a suggested means of controlling her supply is by prohibiting synthetic oil plants. This would not only seriously restrict a war mobilization program but, in the future, "would doubtless cripple such a program".

"The number of synthetic plants," the study continues, "is not great and such establishments can be readily detected. Hence the administrative problem would be relatively simple. Moreover, synthetic oil is very costly, and it would accordingly be cheaper for Germany, at least for some decades, to use imported natural oil.

"Despite these advantages, the problem of controlling the German oil supply would still present difficulties. If Germany is not to be deprived of oil for normal peacetime requirements, it would be necessary to estimate the extent of such requirements and to regulate imports accordingly. The elimination of synthetic plants would, however, simplify the control problem in the event of obvious war preparations. This seems, therefore, a desirable step."

Measures For Japan

FOR JAPAN: Even though an embargo might be laid upon imports of oil when war preparations were seen to be under way, the possession of synthetic oil plants might materially lessen Japan's vulnerability with respect to this material. While Japan could not, because of the coal situation, produce unlimited quantities of synthetic oil, she might nevertheless, by a strict conservation program with respect to civilian consumption of both oil and coal, gradually succeed in building up substantial supplies.

It needs to be borne in mind in this connection that the accumulated reserves of oil—and other products—would not necessarily need to be large enough to wage a war against the U. S. and Great Britain combined. It would merely be necessary to build up sufficient reserves to permit at some propitious time the seizure and occupation of nearby areas having the necessary resources.

Prohibition of the construction of oil refineries would also be desirable. It follows from this that imports in normal times should be limited to refined oil.

According to the study, the strength of Japan as a war power now rests upon the industries, as well as the natural resources, of her colonies and annexed areas. For this reason, the conclusion is clear that the amputation of colonies and occupied areas is a "first requirement."

Congress Near Agreement on Surplus Disposal; Ickes Grab for Mineral Lands Eliminated

NPN News Bureau

WASHINGTON—Complete Congressional agreement on surplus property disposal legislation became the prospect this week after a joint House-Senate conference committee dealt a setback to Secretary of Interior Ickes in what Sen. Moore, Okla., described as an attempted "nationalization of mineral rights."

Not only did the committee eliminate from the pending bill a Senate-approved provision which would have given the Interior Department the right to retain title to oil, gas and other mineral rights in the Federal government in disposing of surplus real property to other than original owners of the land, but it also took these other major steps:

1. Eliminated from the legislation a provision which would have allowed the Justice Department to pass on each proposed disposal of a piece of surplus government property with the idea of preventing "undue concentrations" of industry.

2. Voted that congress be given 90-days' advance notice of intent to sell a war plant valued at $5,000,000 or more, the purpose being to arm congress with the power of veto over any proposed sale. From the standpoint of the oil industry, retention of the committee proposal in any legislation finally enacted will mean that congress will have the final say as to ultimate disposal of the Big Inch and Little Big Inch pipelines or any other government-owned petroleum facility costing in excess of $5,000,000.

3. As a safeguard for small business, agreed that on all sales of surplus property there should be the widest possible advance public notice and that, to the extent practicable, sales should be in the smallest possible lots.

Provides for Leasing

4. Agreed that a proposed "Surplus War Property" board of four members should have the right to lease surplus plants, regardless of value, for as long as five years.

These actions left the conferees with a number of other controversial problems to wrestle over, but the expectation was that the committee would complete its work and report back to both houses before the end of the present week. Action of the conferees is subject to the approval of the respective houses.

Elimination of the Ickes-inspired mineral rights reservation reportedly was largely the result of the activity of Sen. Moore, ex-Oklahoma oil man, who wrote each member of the conference group in opposition to the section.

World Parley Is Summoned On Civil Air Traffic

WASHINGTON—Speedy restoration of world-wide civil air traffic after Germany's defeat will be discussed at an international aviation conference slated for this country on Nov. 1, the State Department indicated this week.

Delegates of more than 50 nations have been invited by the State Department to attend the meeting, which oil companies are expected to watch closely for decisions foreshadowing increased consumption of aviation fuel here and abroad.

Requirements, standards and procedures in developing international aviation routes should be considered by a central technical committee, the State Department proposed. Over the technical committee and subcommittees would be an interim council slated to act as the clearing house and advisory agency until Japan's defeat.

PIPELINES—*Views of the Industry's Problems a*

Washington— *Ickes Overlooked a Bet in Answering Mr. Jester* —By Herbert Yocom

WASHINGTON—Once again PAW Ickes is on record to the effect that PAW will be liquidated as rapidly as war conditions permit.

In a way, however, it is to be regretted that, in his letter to Beauford Jester of the Texas Railroad Commission, he did not take advantage of the opportunity thus afforded to tell Mr. Jester—and all oil men—something of the nature of the war job still to be done by PAW and the industry.

Mr. Yocom

Had he done so, he would have contributed to a clearer understanding of the fact that the need for a PAW very likely will continue until well after the end of the German war, and possibly right up to the end of the Japanese war, and thereby made plain just why it is that no one can be specific now about "plans and processes" for the agency's liquidation.

As it was, Mr. Ickes chose to deal rather cursorily with Mr. Jester, with the result that the latter now says he is coming to Washington to raise the matter with the Texas congressional delegation.

* * *

If, as a result of the war labor board's pressure tactics on the Humble Co., PAW is directed to take over Humble's Ingleside refinery, it must be said, in fairness to the oil agency, that the task will not have been of its own choosing. The plain fact is that PAW has been resisting this thing all along contending—as was managed successfully in the Hughes tool case—that it has neither the desire nor the authority to operate the plant.

Also, in fairness to PAW, it must be remembered that should the President override PAW and finally direct that it assume the operation of the Ingleside refinery there will be nothing it can do but just that. In other words, this is a case, unfortunately, of PAW being caught in the middle and unable, by virtue of being the government oil agency, to sidestep the responsibility, however unwelcome.

* * *

Because they fear being caught with a high cost inventory in their tanks on "V-E" (Victory in Europe) Day, some jobbers are reported here to be holding back on the placing of orders for heating oil, with the result that suppliers in Dist. 3 are finding it somewhat difficult to find purchasers for their product.

According to PAW, these fears are groundless. In fact, we are assured that jobbers needn't worry about the possibility of being caught with an unsold surplus, regardless of the cut-back in military demand that will occur when Germany drops out of the war. The way PAW looks at it, it's going to be possible to absorb the maximum possible production of heating oil by the simple expedient of raising coupon values.

* * *

Meeting of the world oil supply programmers gets underway here this coming Monday, with the big item on the agenda that of devising a program readily adjustable to the end of the German war. Heading the American group that will participate in the rather delicate operation is Stewart P. Coleman, director of PAW's Program Division. . . . Supply of kerosine for domestic use apparently won't be affected one way or the other when Germany folds. Historically, refiners have had to scramble to make enough of the product to meet winter demand. . . . Indicative of the improved asphalt situation, the PAW asphalt section is expected to terminate activity in the next couple of weeks, when Dennie C. Arnold, its capable chief, returns to The Texas Co.

* * *

"If the policy of appeasing Japan by permitting millions of tons of scrap iron and other war materials to be shipped there, including oil, assisted Japan in building up its war machine, (the administration) must assume responsibility, because they were in power and made the policy."—Rep. Rizley, of Okla., speaking in the House on Sept. 7.

Atlantic Coast— *U. S. Road Subsidies Mean Higher Gasoline Taxes* —By Frank P. S. Glassey

NEW YORK—Jobbers throughout the country are eagerly looking forward to the end of the war, which doesn't seem so far off now. Then rationing may be eased or abandoned entirely; then there no longer will be a shortage of help; then the manufacture of new cars will start and gasoline sales will soar once more. In other words, jobbers' profits will again rise to peacetime standards. Or so they hope.

Mr. Glassey

What many jobbers do NOT realize, however, is that if current legislative plans materialize, federal and state governments will be competing with them for customers' dollars as never before. Government probably will be demanding a larger slice of the outlay which John Q. Citizen makes for gasoline and as a result Mr. Citizen may have less to give the jobber.

Federal and state taxes right now are equivalent to 75 per cent of the wholesale value of gasoline used in highway transportation. Legislation now pending before congress would increase federal road subsidies to several times above the pre-war level. Opponents of the bills, in their present form, argue that the proposed federal grants, to be matched by the states, would tend (1) to increase state gasoline tax rates, (2) to freeze the temporary emergency federal gasoline tax, and (3) to create new problems of gasoline tax evasion.

Interest is centered on two highway subsidy measures: H.R. 4915 in the House and S. 2105 in the Senate. The House bill provides a three-year appropriation of $500,000,000 annually and the Senate bill $650,000,000 annually for the same period. In addition there would be available about $150,000,000 of old federal road grants which have not been used because of war conditions.

The federal appropriations must be matched by state funds, in most cases dollar for dollar. Thus the states would need to raise hundreds of millions of dollars to match the proposed handouts. Some petroleum marketers assert this will automatically create a tax squeeze on gasoline that will prove a serious handicap during post-war years when the industry is seeking to adjust itself to new conditions.

Recent testimony before a congressional committee indicated that many states will be unable to match the proposed new grants and that the search for additional funds will cause a trend toward higher state gasoline taxes, bond issues, or both.

The Montana legislature already has adopted a referendum measure to increase the gasoline tax from 5 to 6 cents per gallon, and to issue highway bonds for matching anticipated federal road grants. Because of defective drafting, the measure did not go to the electorate. A measure in Mississippi, which now has a 6-cent gasoline tax, to increase the rate another cent to support a post-war road building program, was defeated largely on the basis that the

legislature should wait until congress acts on the post-war planning legislation.

Highway officials of some states are now conducting a campaign for higher gasoline tax rates to provide additional funds for increased spending after the war. Within a few months the legislatures of 44 states will meet in regular session, and plans for higher expenditures for roads undoubtedly will bring about strong pressure for higher state gasoline tax rates.

Oil men who attack the current pending congressional legislation are not opposed to a comprehensive road building program, as such, but they contend that greater attention should be paid to better utilization of available tax funds, and the banning of the diversion of gasoline taxes for other purposes than highways. The subject is being agitated in some quarters, however, and only this week the voters of Maine considered a constitutional amendment designed to prevent tax diversion.

New York, which in 1941 diverted $64,000,000 of automotive taxes, and more than $600,000,000 in a decade, would receive $155,000,000 in federal grants under the pending Senate bill. In 1941, only 25 cents of each dollar received in automotive taxes was spent by the states for road construction on their state systems. Fifteen cents was diverted to non-highway purposes; ten cents was used for debt service, and 24 cents was distributed to local government units.

In 1941, the states collected a total of $1,452,000,000 in automotive taxes, or approximately double similar collections in 1929.

"If the states used these revenues wisely and fairly," said one oil executive, "they would be able to carry out adequate road building programs without recourse to higher gasoline taxes. But if recent practices are allowed to go uncorrected, the only way for the states to finance expanded programs is through increased taxes."

The temporary emergency federal gasoline tax, enacted in 1932, may also be frozen in the federal tax structure if proposed legislation is adopted by congress, it is believed here. Although the legislatures of half the states have petitioned congress to remove the tax, supporters of higher federal appropriations are now citing the federal gasoline tax as an important reason why congress should create a new level of road subsidies.

Thus the Senate Committee on Post Offices and Post Roads, in favorably reporting S.R. 2105, advocated the large appropriations so that they may be "approximately equal to the taxes collected by the federal government from gasoline and motor vehicles."

The problem of gasoline tax evasion, if rates are increased after the war, is also worrying some in the industry. A note of warning was sounded by Frank V. Martinek, chairman of the central gasoline tax evasion committee, who addressed the annual conference of the Northwest Central states gasoline tax administrators in Denver in July.

Midwest— *Opinion on "R" Coupon Ban Unanimous—All Want it Lifted* —By Earl Lamm

CHICAGO — Difference of opinion about removal of OPA's ban on acceptance of "R" coupons at service stations seems to have entirely disappeared. All 15 members of the Dist. 2 jobbers subcommittee want the ban lifted. D. Oty Groce, chairman, has just canvassed them by mail as a means of saving time and transportation incident to a meeting of the subcommittee, and says that the vote was unanimous. Mr. Groce has so advised OPA Bowles in a letter dated Sept. 5th.

Mr. Lamm

Top officials of OPA are reported to have had removal of the ban under consideration at a meeting in Washington Sept. 7, and unless action is taken, it is likely to be a subject for discussion at the PIWC meeting this week. If results are not forthcoming in the meantime, Mr. Groce plans to submit the letters from his subcommittee members to the Dist. 2 D & M committee meeting on Sept. 26 and ask that action be taken accordingly.

The ban was applied in an effort to stamp out the black market in "R" coupons and it has not proven effective because it is impossible of enforcement. When OPA persists in keeping such regulations on the books that are outright harmful to the industry, violations are encouraged and fuel is certainly added to the fire for complete disposal of OPA at the earliest possible moment.

Pointed information on the ineffectiveness of the ban is seen in non-highway gasoline consumption figures supplied by OPA's Washington office. They show that in June—the last month available—consumption reached a peak of 360,000 b/d or 110,000 bbl. higher than for June, 1943. The 360,000 b/d is a preliminary coupon flowback count, and it is possible that when the final report is made, consumption will be even higher than that.

Other consumption figures, in thousands of barrels per day nationwide, as furnished by OPA: April, 1943—219; May—259; June—250; July—266; August—257; September—304; October—284; November—243; December—187; January, 1944 — 150; February — 150; March—191; April—229; May—291 and June—360.

OPA says cautiously that these figures cannot be used to prove a point conclusively because they are in some part theoretical, having been "adjusted" for various mathematical reasons. However, OPA fully admits they are a "guide" or an "indication." The figures from April, 1943, through April, 1944, are state tax return figures, including bulk non-highway consumption. Figure for May, 1944, is final "flowback" and the figure for June, 1944, is "preliminary flowback", both of which also include bulk non-highway and thus are comparative with the same months of 1943.

The OPA restriction against acceptance of "R" coupons at service stations was made effective April 1, 1944, and it should be carefully noted that each month thereafter consumption of non-highway gasoline not only increased over the same months of the previous year, but that the increase was at a greatly accelerated rate. April, 1944, exceeded April, 1943, by 10,000 b/d, May 1944, was 32,000 b/d greater than May, 1943, and June this year jumped 110,000 b/d over the same month of last year.

* * *

Refiners and other large suppliers in the Midwest are watching with keen interest to see what PAW Director Vandeveer does with his "one man supply Directive 59", which can be slapped on any one or all of them at his discretion. The new dictatorial authority was granted Mr. Vandeveer in a letter from Deputy PAW Davies on Sept. 5, presumably because the two special subcommittees appointed at different times during the past year to write a parody on Dist. 1's Directive 59 failed to come up with anything.

As the time for industry freedom draws nearer, individual company anxiety over the stock position is certain to be intensified and the needle of balance, as represented in applications to PAW for relief, is apt to swing this way and that. However, it is PAW's responsibility to see that all suppliers toe the mark, and that none has undue advantage which will enable it to prematurely start grabbing new customers from suppliers now short.

The several suppliers with whom we discussed the matter seem to think that Mr. Vandeveer will keep his new "big stick" behind him unless it's absolutely necessary to use it, but possession of the unusual authority definitely puts him on the spot.

Lack of Equipment Delays Postwar Planning of Michigan Jobbers

Some Marketers Interviewed Fear Delays in Rehiring Returning Soldiers Unless Given Assurance of Filling Dire Needs Soon

By Earl Lamm
NPN Staff Writer

GRAND RAPIDS, MICH.—Many independent petroleum marketers, jobbers and distributors in this area as elsewhere are apparently very much concerned about what will happen as soon as Germany folds up, and seem at a loss about what to do at the moment. Perhaps this is largely eagerness and impatience to get done with the business of war in view of optimistic reports from all fronts.

However, many questions were asked while we were making the rounds to check up on what bulk plant and service station equipment is needed, or will be needed as soon as the war ends and there are ample products and no rationing. Putting the survey on that basis probably prompted some of the questions, which were:

Will products be plentiful and ration free when Germany quits? Will OPA keep a rope around our necks on prices? Will PAW keep sitting on us? or will we be permitted to install equipment when and where we please? Will ODT keep a hawk's eye on us to see that we don't deliver one gallon less than minimum dumps? Will OPA padlock us if we fail to take a coupon? Will WPB continue to restrict manufacture of new equipment for us? When can we get new equipment?

Immediate Needs Urgent

Certainly there is no lack of agreement in the oil industry about marketing taking the severest beating of any branch in the business. Almost all equipment used in the distributing process is worn to the nub. In many cases independent operators—and some not so "independent"—have been unable to obtain even the necessary paint and painters to apply it properly to maintain bulk plants and stations, at prices they can afford to pay. The peeled, blotchy appearance of their storage tanks and other equipment is mute testimony of that.

The urgent need for new equipment really hits home when the dispensers of products put it this way:

"Soon our former employes will be through soldiering and will expect their jobs back. How can we furnish work with limited products, worn out equipment and rationed customers? What can we do about these things *now*?"

But to get the equipment survey of major items needed most, detailed statements were taken from four jobbers in southwestern Michigan. They were selected at random except that companies having a different sales volume were chosen in order to take an average slice of the cross-country picture. Gasoline gallonage report for Michigan shows the smallest company sold less than 9000 gal. during its lowest seasonal sales ebb in 1943. The largest company did 223,011 gal. during its best month of the same year. These figures do not include fuel oil, lubes and greases of course, since they are not subject to the gasoline gallonage tax.

The four companies were Square Deal Oil Co., Battle Creek, West Michigan Oil Co., Fennville, Odell Oil Co., Grand Rapids, and another company in the same area that has some rather extensive expansion plans in mind and for the present must remain anonymous. It is the largest of the four, but also an independent. In making the round incident to the survey, several other jobbers and distributors were also contacted in order to test the general circumstances and establish the fact that the survey was representative.

Uncertainty over when they can replace outgrown and outworn equipment is dulling postwar optimism of Michigan jobbers and raising fears that not only will they not be in good position to meet keener competition of peacetime but may be defeated in their hopes of restoring returning soldiers to their old jobs without delay.

Such is the report of Earl Lamm of NPN's Chicago Bureau who has called upon a number of Michigan marketers and reports his findings in the accompanying article, the fifth in NPN's equipment survey.

As in other territories visited, Mr. Lamm finds that the need for equipment is acute and marketers are willing and anxious to buy as soon as official Washington gives the word.

Square Deal Oil Co., is headed up by C. J. Crumpton. He operates in Kalamazoo County and four townships of Calhoun County. He has been in business for eight years. Most of his sales now are made through service stations, supplemented by commercial consumers. He has two tank wagons. His 1941 sales he gave as 2,615,824 gal. and for 1943, 2,173,517 gal., so war conditions have cut him back about 500,000 gal. annually. This is gasoline only. For later figures, the Michigan gallonage report for the first six months of this year shows January gallonage totaled 203,396 gal.; February, 140,792 gal.; March, 159,655 gal.; April 164,537 gal.; May, 178,172 gal. and June, 214,458 gal.

Mr. Crumpton serves 38 service stations, 19 of which he owns or operates under lease, the other 19 being dealer stations. He has two bulk plants, one in Battle Creek with 80,000 gal. storage capacity, and the other in Kalamazoo with 60,000 gal. capacity, or total of 140,000 gal. They are equipped with Bowser meters but have no vapor saving devices, Mr. Crumpton said.

He has eight employes now, compared to seven in 1941.

Population Shift Minor

Commenting on the war time movement of population in his trade territory, Mr. Crumpton said he did not think there had been any change over all. Battle Creek has had a slight increase, but Kalamazoo showed a small loss, he said. The principal war plants, he listed as Clark Tractor Co. and Eaton Manufacturing Co., which makes airplane valves. The paper mills at Kalamazoo, he added, are still short of supplies and help.

There is one major oil company bulk plant closed in the Battle Creek-Kalamazoo area, and 12 or 15 service stations.

Mr. Crumpton said his recollection was that in 1942, there were 47 stations closed in the same area. Owner of the bulk plant now closed is making deliveries direct by transport.

Has Few New Pumps

Asked about his equipment needs, Mr. Crumpton replied that he has five new Tokheim station pumps in his warehouse—the last of 12 purchased in 1941—which he has been hoarding. However, there are several pumps now in use at service stations which need replacing and Mr. Crumpton set his requirements at 12 more new pumps. He plans also to enlarge storage capacity at several service stations and wants fifteen 4000-gallon tanks for installation, in order to handle bigger dumps.

Most of his service stations now have only 1000-2000 gal. storage capacity. Installation of these new tanks, Mr. Crumpton thought, would require about 1000 ft. of lines and piping. As to lighting equipment for service stations, he thought all that would be necessary would be minor repairs and working over of equipment.

Installing the larger storage tanks at service stations is expected to make unnecessary any further enlargement of his bulk plant as the stations with increased capacity can transport dumps direct.

Three air compressors with 60 gal. tanks and 3/4 horsepower motors are needed. The service stations have ample lift equipment but six high pressure lubricating outfits will be needed at the

dealer stations. However, the dealers supply this equipment themselves. Rest room equipment at service stations is to be cleaned up, repaired and painted. No new equipment is needed at this time. Square Deal Oil Co. sells Phillips products and Mr. Crumpton said he would like to see more coin operated service station pumps like those in the Nebraska-Kansas territory. He described the coin apparatus as a piece of equipment that can be added to any metered pump. At stations where they are used, he said, his transports could dump into the station storage and the coin operated meter would greatly simplify credit to dealers.

Asked about the necessity for rebuilding some of his service stations, Mr. Crumpton said he had purchased a station from National Refining Co. when they pulled out of his territory last May. It is an old style station located on East Main in Battle Creek. He plans to rebuild it, and he wants to make it into a super service station, adding wash racks and grease racks.

Discusses Expansion Plans

Regarding possible expansion plans, Mr. Crumpton said that his supplier had told him that they plan to handle everything except food and clothing and that there is to be a list of about 4000 items, such as Mixmaster toasters, deep freeze units, air conditioning units, radios and sporting goods, which are to be sold to service station dealers and consumers through the oil jobbers. If that program fully develops and Square Deal Oil Co. goes into it, a lot of remodeling and enlarging will be required in order to provide stock and display rooms. Mr. Crumpton has the impression that many major oil companies are already starting similar programs or are considering them, the idea being that the oil companies will publish catologues of what they can supply for homes, service stations and jobbers.

As things stand today, Mr. Crumpton figures that all of his service stations except the one he plans to remodel are in fairly modern condition and that he has his territory pretty well covered. However, he does have his eye on four tentative new locations for service stations which await more definite developments. Right now the reduction in the supply of Ethyl gasoline for civilian use is hurting jobbers throughout this section.

Plants in Good Shape

Returning to the question of equipment, Mr. Crumpton said he had no new construction or other work held up by the war and that his service stations and bulk plants were in good shape when the war started. Asked about truck equipment, he stated he wanted an 8000 gal. transport right now and would like to have it equipped with a power take off, pump and meter. He also has a 720 gal. delivery truck tank which he would like to replace with a 1500 gal. tank and a new truck too as soon as possible. Other truck equipment he has and says is OK for the present consists of 1545 gal. tank wagon equipped with a meter; one panel, a stake body and a pickup, making a total of five units.

No trucks have been converted to heavy duty hauling by addition of special axles as the heavy work is done by the stake body and the small delivery truck is to be traded in when a new larger tank is purchased.

Not much could be done to save time and rubber by re-routing of trucks since advent of ODT's regulations and Square Deal Oil Co. has had very little country business, and the farthest haul from bulk plants is seven miles.

Lost Equipment Man

When asked about the maintenance of bulk plant and service station equipment, Mr. Crumpton said he had an equipment man until about six weeks ago but he decided to go into the beer business and left the job he had been on for eight years. When he left Mr. Crumpton employed a repairman and also a salesman, which accounts for his increase in personnel.

"When I started in business about eight years ago," Mr. Crumpton continued, "90% of my equipment was new. It has now depreciated, especially during the past 2 or 3 years when practically no new equipment could be bought, so repairs are on the increase. I figure my costs are up 25% on maintenance."

Inventory of parts and equipment on hand includes the five service station pumps already mentioned, two 1000 gal. storage tanks and two used air compressors. With this small surplus, Mr. Crumpton thought he could squeeze by for another six months although, he said, under present conditions operations become more and more difficult and the extra time spent by his new repairman on repairs and maintenance over and above what his former man spent on it adds up to $100 per month salary alone. This is for handling equipment repair jobs only. Bulk plant tanks have not been painted for three years and it's been two years since the trucks were painted.

However, a contract has been let now to paint the tanks, and painters are already busy on the company operated service stations. Cost of most of the work, however, is up about 30% over pre-war. It formerly cost from $120 to $130 to paint a service station complete and it now costs $180.

The items of needed equipment and repairs enumerated here apply only to Square Deal Oil Co.'s present bulk plants and service stations. Possible expansion plans include the purchase of another bulk plant in Kalamazoo, which is now being offered for sale. It is owned by a near-major company which is withdrawing from Michigan. The bulk plant has 380,000 gal. storage capacity and, if purchased, will need painting and minor repairs. It is equipped with Tokheim vapor controls but Mr. Crumpton was not sure about meter equipment.

The war has done a lot of things to Frank J. Odell and the Odell Oil Co. of Grand Rapids, including failure to improve Mr. Odell's hayfever, from which he was suffering when contacted. Prewar, his oil canning and used oil

Addition of fast service, six-door garage at the right end of this modern station is planned for immediate postwar as soon as material and equipment are available under agreement between the West Michigan Oil Co. and Parish Motor Sales Co.

reclaiming plants were operating full blast and he was doing a splendid oil business through central and southwest Michigan. He said 1940 sales amounted to 480,000 gal. In 1941 they dropped to 455,000 gal. Now all he has left is 10% or 15% of that amount—85% to 90% of his oil business gone to pot! His plants are shut down, or practically so.

He had 16 employes in 1942, and when the draft and high salaried war plants began grabbing them, he hired more. They, too, soon departed, and cans for packaging oil disappeared with a WPB order eliminating them.

But Mr. Odell has taken the blow philosophically. He decided on patience and waiting until at least his employes in military service return. Besides he has his Grand Rapids bulk plant left and in full operation. Other bulk plants he had at Iona and Zeeland have been sold. He has four employes remaining out of the 16, which included half dozen oil salesmen.

However, sales from his one bulk plant are O.K. He said they had increased about 11% over prewar, and the Michigan gallonage report shows 1943 gasoline sales totaled 950,735 gal. For the first six months of 1944, they totaled 465,209 gal., running from a low of 66,816 gal. in April to a high of 90,947 gal. in June. This covers taxed gasoline only.

Modern Equipment

"But the fact is my postwar plans are a bit hazy," Mr. Odell said. "I don't even know how many employes I will have. As I understand it, I'm supposed to take back all who went into military service and I want to do that. If they all come back, I'll have a larger organization than I had before the war because of the new men hired as replacements when the older ones left. That would affect my plans a great deal, calling for larger operations than I had before the war, and I may go into it."

His present bulk plant in Grand Rapids has a capacity of 80,000 gal. for gasoline. Tanks for motor oil at his canning plant hold 48,000 gal. Gasoline tanks are equipped with meters and vapor saving apparatus. His oil canning plant is also modern, except that he has in mind purchasing an automatic barrel filler.

Mr. Odell has been in business for himself since 1932, but has been selling lube oil since 1918. His present gasoline business is confined to Grand Rapids and suburbs. He now owns or controls 16 service stations, all of which are leased and sales to them are supplemented by sales to a few other dealers, the total accounting for about 95% of his gallonage volume. The other 5% comes from commercial consumer sources. He has no farm accounts, he said, and does not handle fuel oil. Population of his trade territory; that is, Grand Rapids and suburbs, has not changed a great deal since the war started.

With this picture before us and considering that a number of other plants over the Midwest were also drastically affected by the war, we got down to brass tacks and asked Mr. Odell what equipment he really needed if he could get it, provided the war should end today, with rationing killed and plenty of products available.

He replied that that would depend upon how soon his employes returned from the army, but as soon as they arrived and the other things were right, there were a number of worn station pumps that would have to be replaced. He figured it would take 20 new ones.

Two stations have been closed and three new ones opened, he said, which is how he has maintained his volume on gasoline sales. The two closed stations he plans to re-open. They will need some going over and the used equipment from them, which is now in storage, reinstalled or replaced with new. At the moment he was not certain which would be done. However, he plans to add an additional stall at another station and put in a wash rack.

Coin Pumps Out

Inquiring what improvement he thought manufacturers should make in post war bulk plant and station equipment, he commented that as far as he was concerned coin operated station pumps were out. He said he had no particular credit risks and had discontinued his collection agency service on delinquent accounts sometime ago. As yet he has no spots selected for new service stations.

Truck equipment now consists of one 1939 model tank wagon with a 750 gal. tank, a pickup and a stake body—both 1940 models—and a 1941 tank wagon with 1600 gal. tank. This last 1600 gal. tank is new having been installed in August, replacing a smaller tank. Mr. Odell feels that this truck equipment will last him for a while. It is in fair condition and at least for the present, not overworked, and for this reason repairs have not been difficult. And since operations are on a greatly reduced scale, truck expense, along with other costs, has been reduced accordingly.

Inventory of parts and equipment on hand is down to an assortment of eight old station pumps which have been switched about on locations from time to time and then some parts removed for repairing other pumps.

"Painting of stations, bulk plant, trucks and equipment has been neglected," Mr. Odell said. "I'm waiting for return of my men. I decided to take it easy until the war is over. The business has carried itself pretty good. I handle no accessories for motorists, except that I do have a contract on tires and batteries through Standard of Indiana, my supplier, but dealers are not obligated.

"After the war is over and I start rebuilding my business I may take on additional items, especially if I find I have more employes than I did when we got into the war. I will have to if I am able to give them jobs. I built my new oil reclaiming plant in 1940, operated it during 1941-42 and then locked the door for the duration. We re-ran 25 to 30 thousand gal. of oil monthly, and were just getting started, but when it's re-opened I plan to put in pipe stills instead of the present vat stills, and perhaps a new boiler. My canning plant is in good order, except for that new

(*Continued on p.* 64)

One of many bulk plants in southwest Michigan scheduled to get painted as soon as paint and painters are available

By Government authorization, heavy-duty Autocar Trucks are now in production for essential commercial hauling. Act at once! Your Autocar Branch will help you file your application.

"MISS ROMA"... Pin-Up Girl!

"Miss Roma," pin-up girl of the Roma Wine Company fleet, is an Autocar, equipped with a semi-trailer and mounted with a van body rated at 39,000 pounds gross capacity. That's heavy! But as smooth as the wine she delivers from California wineries at Fresno, Lodi, and Healdsburg is her heavy-duty performance....The post-war trend is apparent: Bigger trucks for bigger payloads and even *heavier*-duty hauling. And in the vanguard of the nation's peace-time fleets will be swift, rugged Autocars, winning new laurels for precision-built dependability and low-cost-per-mile performance.

ARMY E NAVY

U.S. WAR BONDS TODAY'S HEAVY-DUTY JOB

AUTOCAR TRUCKS for Heavy Duty

MANUFACTURED IN ARDMORE, PA. • SERVICED BY FACTORY BRANCHES FROM COAST-TO-COAST

ANOTHER EXAMPLE OF LELAND'S

CREATIVE ELECTRICAL ENGINEERING

» LELAND is more than a motor name plate. LELAND stands for *Creative Electrical Engineering*—the technical ingenuity to design and build a power unit for your specific application to deliver peak efficiency and performance.

This inverter, for example, was built to meet a special need. The problems involved and their solution point up LELAND'S special skill in *Creative Electrical Engineering*. We invite you to consult with us.

THE Leland *ELECTRIC COMPANY*

DAYTON 1, OHIO

In Canada, Leland Electric Canada, Ltd., Guelph, Ontario

★

AIRBORNE POWER INVERTER—D.C. drive from aircraft electrical system, high frequency A.C. output up to 2,500 volt amperes used as power supply for electronic equipment.

With Warren Platt in England—

Construction and Operation of Mobile Petroleum Laboratories

U. S. Army Officers, Former Oil Men, Describe Units Maintained in Battle Areas for Testing Products

So many billions of gallons of petroleum products are handled by so many persons in and about the armed forces, that the U. S. Army found it necessary to establish a thorough checking and testing system. This was not to check against the work of the refiners in the U. S., whose products had already been inspected and tested many times before being loaded on tankers, but to check against what could happen to the products over here.

So, not only a main laboratory was established in England manned by skilled oil refinery laboratory men from the U. S., but mobile laboratories, built in England and America, are cruising up close to the battle lines in Italy and northern France. The mobile laboratories were a new development.—W.C.P.

By Lt. Col. John C. Cramer and Maj. S. F. Mauney, Jr.

LONDON — New technological developments and refinement of existing techniques are always inspired by recognition of the need for better processes. Usually, recognition of the need for new development will arise in different parts of the civilized world at the same time. There are many instances in scientific history where new developments or new inventions of exactly parallel nature have been perfected by scientists who had no knowledge of each other's work. Often, these scientists have been separated by oceans and continents. Every now and then such instances are brought into the limelight by lawsuits over patent rights, when different people rightly claim that they conceived and developed a new article or process.

A war always creates requirements for technological advances, and lends tremendous impetus to their development. The need for more and more speed in aircraft inspired the jet propelled airplane, and the need for providing the ordinary foot soldier with means of combating a heavily armored tank gave rise to the invention of the much-publicized "bazooka".

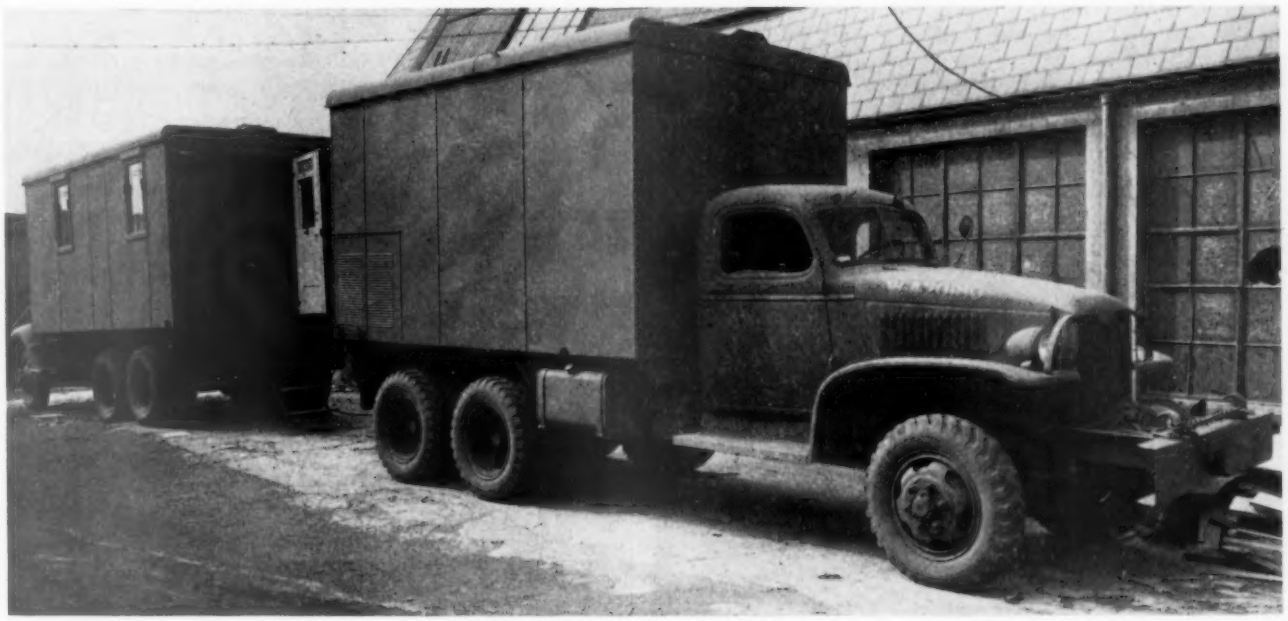
These are romantic developments and stories about them are always interesting. Such inventions that catch the imagination are always seized upon by journalists for feature story material. However, there are many technological developments about which little is written because, in general, they are not of such a nature as to engage the interest of the layman.

In this mechanical age, when the success of armies is largely dependent on the mechanical perfection of its equipment, the science of petroleum comes to the fore. As any reader of this article already knows, petroleum has been an enormous and a determining factor in the outcome of this war. More than 50% of the total tonnage of supplies required to support a modern, mechanized army consists of petroleum products. For an army of some size, this will amount to several hundred thousand gallons of gasoline and oil every day.

Much has been written about this great problem, and everyone has read about various phases of the oil picture —Big Inch pipe lines—Middle East oil fields—Harold Ickes—Canol projects—etc., etc. But this article is concerned only with one detail of one phase of this tremendous world-wide petroleum program, namely, quality control.

Quality control, in general, encompasses all the work performed in the laboratories of the oil companies down through intermediate stages of storage and shipment to the time that the quality of the product is checked before delivery to the fighting troops. Obviously, the major allied countries which were not over-run by the Germans still had available to them all the quality control personnel and facilities of the oil companies. No great difficulties were experienced in converting these to war time use.

However, there was one blind spot—the quality control and inspection of the petroleum products when they were carried within range of attack by the enemy. No matter how much care is taken at the refinery, many things may happen to render oil, gasoline, and grease unfit for use from the time they leave the refinery in America to the time they are supplied to a 30-ton medium tank of the battle line in North Africa or Normandy. This problem has been rendered difficult because as the Allied Armies advanced, they had to anticipate



Exterior of Store Truck and Mobile Laboratory

that all oil handling facilities would be either destroyed or carried off by the retreating enemy. Furthermore, because this war has been one of movement over great distances, it has been necessary to provide oil facilities for inspection and quality control which could follow closely behind the advancing troops. For example—a petroleum laboratory in Cairo could not have adequately served the 8th Army when it was stretched out over the desert for 2000 miles.

The need for the development of a system to provide reliable quality control during a war of movement was recognized by petroleum technicians in three parts of the world at about the same time. Simultaneously, in the United States, England and the Middle East, scientists began working on this problem. None of them had any knowledge of the thoughts or plans of the others; it is quite interesting that the methods developed were almost exact parallels.

There was nothing revolutionary in the conception and construction of a mobile laboratory. Mobile biological laboratories were built for the Medical Corps in World War I. The creation of a mobile petroleum laboratory simply called for the application of standard techniques to a mobile unit self-contained and self-supplying for reasonably long periods, and capable of moving across country and performing the work of a normal laboratory at a moment's notice. Such laboratories have been built by the British for their own armies, and by the War Department in America. It is our purpose to describe the development, technical features, and employment of a mobile petroleum laboratory, built in England for the U. S. Forces prior to the North African invasion and a laboratory built for the U. S. Forces for use in France in the great invasion.

This service in the European theater of operations has been abbreviated to "Qmspil". The hardened ones even pronounce it, as if it had an "i" in between the "Q" and the "m". In a small Southern England town the bosses of the laboratory units have pre-empted a perfectly nice little residential street and re-christened it with this tongue-twisting name. The natives seem to take kindly to it. But if you want the full official name, it is "Quartermaster Service Petroleum Inspection Laboratory".

This laboratory system not only can be considered a protective service to the

About the Authors of NPN's Article On Army's Mobile Testing Laboratories

By Warren C. Platt

LONDON—Lieut. Col. J. C. ("Cal") Cramer, author of the article on this page about the Quartermaster's stationary and mobile oil inspection laboratories, is a product of the technical department of Standard of New Jersey. Maj. Sidney F. Mauney, co-author, is from the Carter Oil Co.

Col. Cramer, after graduating from the engineering college of the University of Kentucky, went into the Esso Laboratories at Standard Oil's big Bayway refinery. After technical training at the Development Co., and extensive refinery engineering experience, he became the supervising inspector at Standard's Baltimore refinery. As a reserve officer, he was loaned to the U. S. Army, Ordnance Dept., in 1941, and was stationed in Washington for a year in the Fuel and Lubricants Branch of Field Service, Office, Chief of Ordnance.

In 1942, Col. Cramer was detailed to duty with Ordnance Field Service in the U. S., later being assigned to the Area Petroleum Office in London when that agency was established by the Army-Navy Petroleum Board. When Gen. Eisenhower's combined staff, the Supreme Headquarters, Allied Expeditionary Force (SHAEF) was established, Col. Cramer was promoted to his present rank and assigned to the Petroleum Branch of G-4.

Much of the present successful co-operative use of petroleum supplies between the Allied armies is due to the efforts of Col. Cramer during his assignment to the Area Petroleum Office. Early co-ordination of the specifications and uses of the many and varied products is now paying the Allies big dividends. It was during this period that he also took a leading part in designing the mobile laboratories and developing plans for their employment.

Maj. Mauney, who runs the laboratories, came over last September. He opened for business in November with three assistants and such equipment as he could scrape together. In December, his staff was augmented by a previously organized unit from the U. S.; two more arrived in February. "D" day had been passed by only 6 days when a mobile laboratory unit was sent to France.

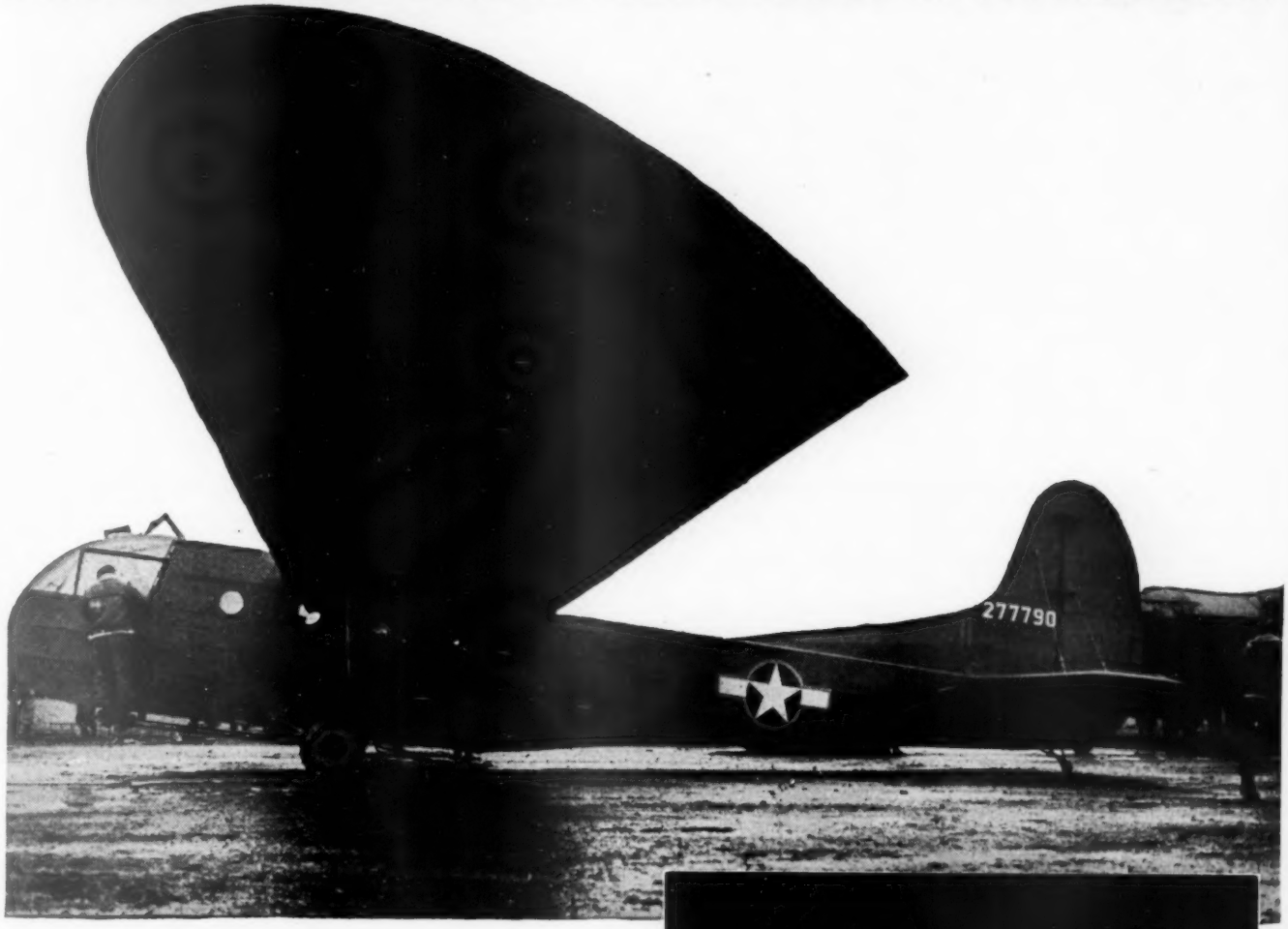
Maj. Mauney is a native of North Carolina where he graduated from the State University as a chemical engineer. He went into an inspection laboratory of Standard of New Jersey and the following year, 1924, was transferred to the Carter Oil Co., in Oklahoma. In 1925 he was made Carter's chief engineer and superintendent of its natural gasoline plants. In the next 18 years those plants achieved their greatest growth.

Maj. Mauney was a member of the Officers Reserve Corps. He was called to service in April, 1942, and put in charge of internal security work. He was about to complete his training course in an infantry officers' school, to which he had transferred, when he was ordered to England to help establish and to manage these inspecting laboratories.

Interior of mobile laboratory, looking toward rear

Interior of mobile laboratory, looking toward front

The **ROAR** *seldom heard above a* **WHISPER..**



Silently, swiftly . . . whole trains of CG-4A gliders swoop to land on enemy soil . . . behind enemy lines. Snub noses are yanked aloft and out roar jeeps . . . pack howitzers . . . troops armed to the teeth!

There's death for the enemy in the cargoes these flying boxcars carry . . . *surprise* death, usually. Just one more evidence that America won't rest until the fight is carried to the enemy over every route ingenuity can devise!

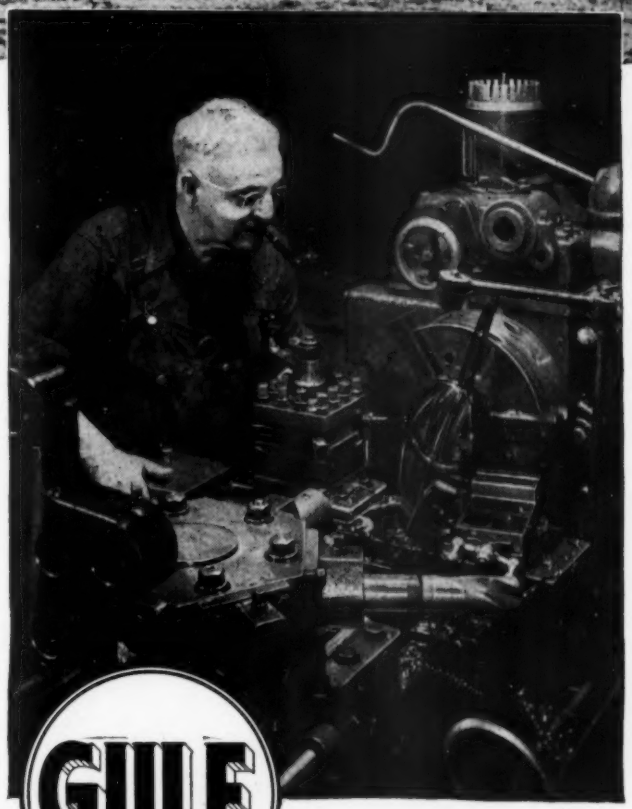
Industrially. . . the Petroleum Industry's part in making mechanical weapons is obvious.

Yet even in the development of a weapon fashioned primarily of wood, fabric, plastics, and rubber, the Petroleum Industry plays a necessary role.

The Petroleum Industry serves the textile industry directly, furnishing a variety of special lubricants vital to the machines which produce fabrics. It also furnishes important ingredients used in making plastics and synthetic rubber.

The Petroleum Industry is pleased to be able to back up the war plants making such real contributions to the glider's combat success.

Gulf is proud to be a member of this fighting industry!



GULF

Ready Today with the Fuels of the Future

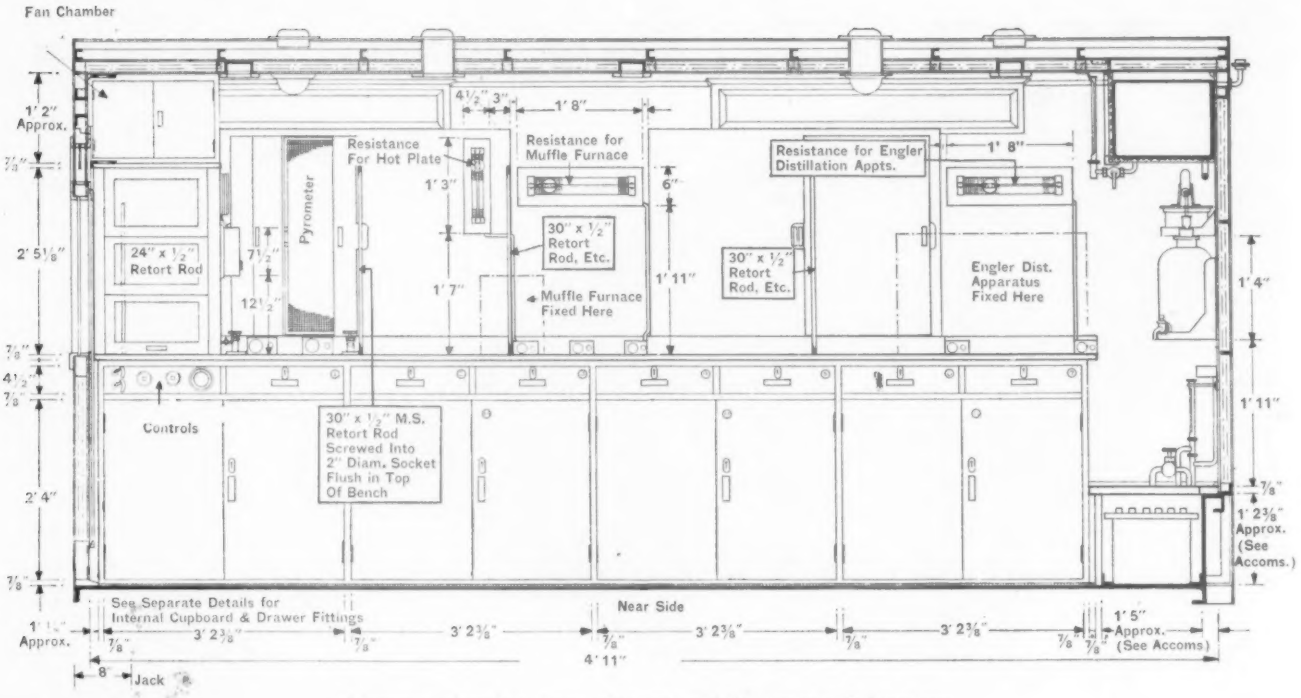

Fan Chamber
1' 2" Approx.
Resistance For Hot Plate
Resistance for Muffle Furnace
Resistance for Engler Distillation Appts.
Pyrometer
24" x ½" Retort Rod
30" x ½" Retort Rod, Etc.
Muffle Furnace Fixed Here
Engler Dist. Apparatus Fixed Here
Controls
30" x ½" M.S. Retort Rod Screwed Into 2" Diam. Socket Flush in Top Of Bench
See Separate Details for Internal Cupboard & Drawer Fittings
Near Side
Jack

Diagram showing near side of mobile testing laboratory

army but also to the oil industy. In addition, however, it is turning out to be quite a research or exploring service to the industry, because it is discovering just what the different oil products are doing under the most severe fighting conditions. When troops are maneuvering, particularly in the fighting lines, there is little time to think about proper care for a particular product or gadget. The boys have to go and keep going, regardless. Because of so much handling and rehandling, of taking bulk petroleum from tankers into large storage tanks, of transporting it by pipelines to smaller tanks, of reloading into tank cars and tank trucks, and then of breaking down the cars and trucks into cans and drums—a possible eight handlings of a single quantity of one product before it gets into the equipment that will consume it—there is plenty of opportunity for contamination. While the testing laboratories cannot check every delivery of every gallon, they do check the method and the practices to keep them running sanely.

The task of receiving tankers on a coast just vacated by the enemy has already been mentioned but under war conditions, this job well may prove to be very complicated. The propensity of the enemy for destroying all docks and shore facilities before leaving means that these establishments have to be completely rebuilt. Such facilities include laboratories for testing tanker cargoes of the oil after it is discharged into shore tanks. Ship's cargoes are far more likely to become contaminated during war time, especially if the ship is carrying several

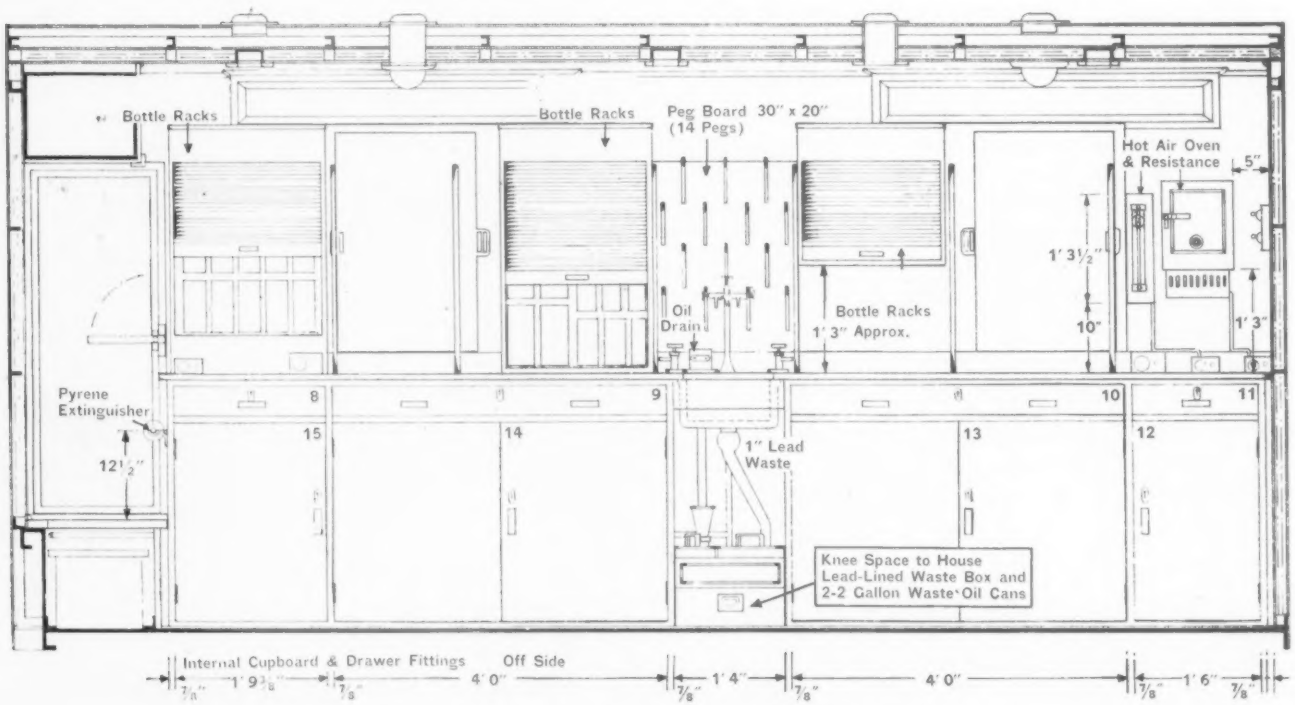

Bottle Racks
Bottle Racks
Peg Board 30" x 20" (14 Pegs)
Hot Air Oven & Resistance
Oil Drain
Bottle Racks 1' 3" Approx.
Pyrene Extinguisher
1" Lead Waste
Knee Space to House Lead-Lined Waste Box and 2-2 Gallon Waste Oil Cans
Internal Cupboard & Drawer Fittings
Off Side

Diagram showing off side of mobile testing laboratory

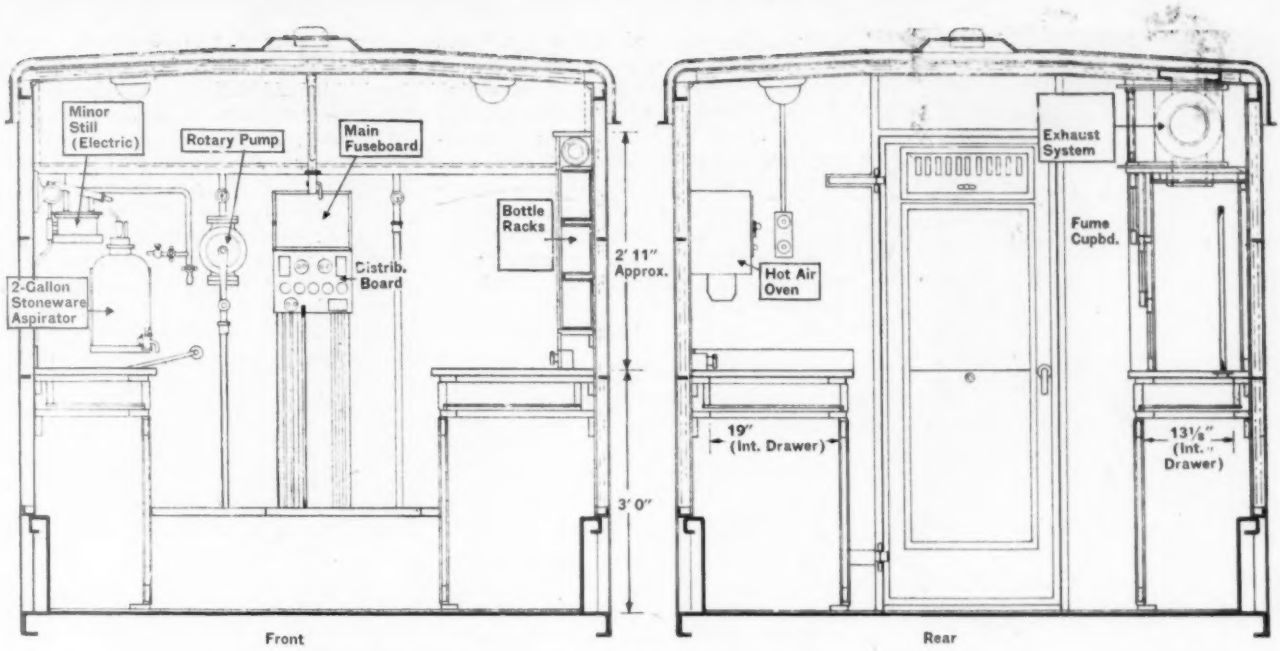


Diagram showing front and rear views of mobile testing laboratory

different products. This factor has to be watched very closely.

There is also danger of sabotage of products which could stall equipment completely at a crucial moment.

In addition to lack of experience by men green to oil handling, and even to its proper use in complicated military vehicles, the oils or fuel often get blamed when something else is wrong. Here, the traveling laboratories help to solve the Army's operating difficulties, and, at the same time, serve to protect the oil men.

For example, one complaint against good "HD 30" was due to the fact that crankcase draining had inadvertently become mixed with the oil. In another instance, the cans used for crankcase drainings had not been properly drained and cleaned. Again, some motor fuel had been contaminated by rust preventive oil which had been put in cans.

It is well known in the oil industry that today's highly cracked gasoline may deteriorate even in few months' time if kept in storage. This offers no problem in peace time because the industry, both in the U. S. and abroad, has increased its operating efficiency so as to reduce its dead investments on gasoline while in transit and in storage. Fuels, particularly, are kept moving almost continuously from the day the crude comes from the well to the day the final consumer uses it. Some advertisements have been designed to make capital of this efficiency by publicizing "fresh" gasoline.

But military needs introduce the long-time storage factor. Petroleum products must be held in reserve at many points against possible future use. Military necessity may change and motor fuel may be in storage not only for months, but even for several years before it is used. In preparation for the North African war, and particularly for the present invasion of the Continent, motor fuels had to be put in storage over here long in advance, and not just in bulk storage, but in cans and drums in a large number of oil depots. Technicians in Washington attempted to correct this situation by incorporating in the U. S. Army specifications for Motor Fuel, All Purpose (2-103 B), a requirement that there should be no more than two lbs. pressure drop in 7½ hours when the gasoline was tested in the standard ASTM oxidation bomb. The stability requirement was later amended to the standard 7½ hours ASTM oxidation test. However, this did not preclude the formation of gum in gasoline already stored in military depots. Mobile laboratories in both England and North Africa toured gasoline dumps and tested the fuel for gum. Stocks found to be excessively high in gum were segregated and disposed of, thereby precluding any difficulty from this source.

It is not infrequent that markings on containers become defaced. In such instances, the laboratories can tour dumps and identify the material.

The collection of samples of captured enemy petroleum products is not as simple as merely picking up a can of gasoline or oil and sending it back to England or America. The Allied nations already

Cupboard packing arrangements of various pieces of apparatus

Interior of store truck showing refrigerator, CO_2 cylinders and arrangement of drawers and lockers

know that the enemy uses several standard products. While it is true that additional samples of these standard products must be checked at odd intervals to determine if the standard is being maintained, it will not help a great deal if the home laboratories are flooded with a great many samples of the same material. Mobile laboratories, therefore, can select appropriate samples for Intelligence purposes. By rapidly examining a sample to determine whether or not it is one of the standard products, the laboratory can screen the materials picked up and return to England and America only those samples which will prove the most helpful in analyzing the enemy's oil position.

Another function which mobile laboratories can perform and one in which the British units have been particularly interested, is a modified hydro-carbon analysis of captured enemy or indigenous fuels in re-occupied territory. Although not as accurate and reliable as spectrographic analysis and low temperature distillation, the so-called "emergency chemical method" can produce fairly good results, and at least show the aromatic content. Thus, it will be possible to prevent gasoline containing too high an aromaticity from being used in military vehicles.

Construction of Mobile Laboratories in England

Early in the fall of 1942, Col. G. H. Vogel (regular army officer, now Chief of the Petroleum Division, Allied Force Headquarters in North Africa and Italy) was supervising the planning for the supply and control of petroleum products to the armies which would invade North Africa from England. Col. Vogel recognized the need for providing facilities for quality control. He directed a member of his staff to study the possibility of constructing a mobile petroleum laboratory and to give him a report.

Scientists and technicians of oil companies were consulted, but it was found that it would be necessary to start from scratch to build the type of laboratory desired. However, it was discovered that a firm of laboratory equipment manufacturers, namely, Baird and Tatlock Ltd. of London, had had considerable experience in building mobile laboratories for the British Army, Medical Services both in this war and the last. Appearing with this article is a picture of one of Baird & Tatlock's mobile laboratories built in 1917 for the U. S. Medical Corps.

Baird & Tatlock's technicians were consulted as to the possibilities of a mobile petroleum laboratory, and finally agreed to undertake the task of its construction provided the U. S. Army technicians would work closely with them on its development.

The various phases of the development of the laboratory are interesting. Firstly, it had to be set down clearly what the mission of the unit was to be. This mission can be summed up as follows:

Reception of tankers and inspection of bulk petroleum during storage and transfer.

Inspection of packaged petroleum products for quality and identification determination when required.

Inspection of captured enemy material to determine the extent of its utility in our own or captured material, and to assist the Intelligence Service in gathering information on enemy petroleum products and distribution facilities.

Considerable importance was attached to the mobility of such a unit, due to the fact that it could be readily moved out of danger zones or be taken quickly to any location where its services were required. It was thought that when enemy territory was occupied, substantial quantities of petroleum supplies might be captured, and that it would be important to determine to what extent this material could be used. It was also considered important to have facilities readily available to identify supplies of petroleum products when the normal markings had become defaced or lost and to ascertain when supplies had become contaminated or sabotaged to the point where their use would endanger the operating efficiency of the equipment.

As a brief digression, it will be interesting to note that the 8th Army in its drive across North Africa, captured and used approximately 7 million gallons of petroleum fuels. A mobile laboratory built under the supervision of Maj. A. J. Bell, British Army, R.A.S.C., followed the 8th Army through its entire campaign. Having determined the mission of a mobile unit in broad principle, the next task was to put down in more detail the tests which the unit would be called upon to perform. It was realized at the outset that every single test called for in standard Army and other government specifications could not possibly be incorporated into a mobile unit. It was therefore necessary to study the whole range of specifications and to put down the minimum number which could be used to accomplish the laboratory's mission. The tests finally decided upon were as follows:

Gasoline: API gravity, ASTM distillation, lead determination, gum, copper strip corrosion, Reid vapor pressure, sulfur determination, aniline point, alcohol content.

Gas Oil — Diesel fuel: API gravity, aniline point, impurities (by centrifuge), water by distillation, viscosity, distillation, cloud, flash.

Kerosines: API gravity, aniline point, flash, distillation.

Lubricating Oils: API gravity, viscosity (Redwood* and kinematic), flash, neutralization number, saponification number, Ramsbottom carbon (correlation charts with Conradson test provided), ash, water by distillation, corrosion, pour and cloud points, Precipitation number, steam emulsion.

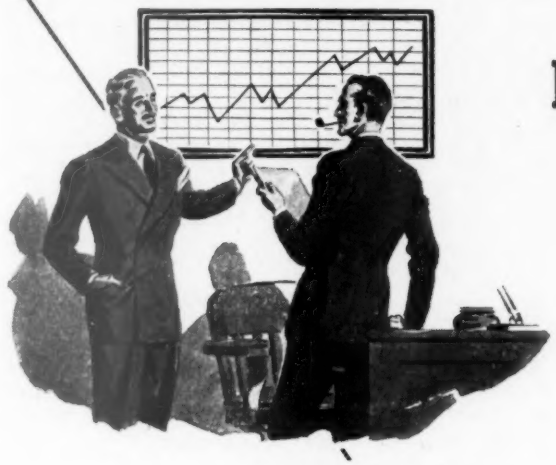
Greases: Penetration, melting point, percent soap, analysis of soap, free acid and alkali, filler determination.

The third stage was to study the ASTM Standards and the British Institute of Petroleum Technologists standard methods to determine if the apparatus required for these tests could be installed in a mobile and independent unit. Major problems which had to be solved in respect to the equipment were methods of producing heat and cold, controlling temperature, producing compressed air and vacuum, and ways and means of supplying water and re-agents. These considerations had to be resolved before design work on the laboratory itself could be started.

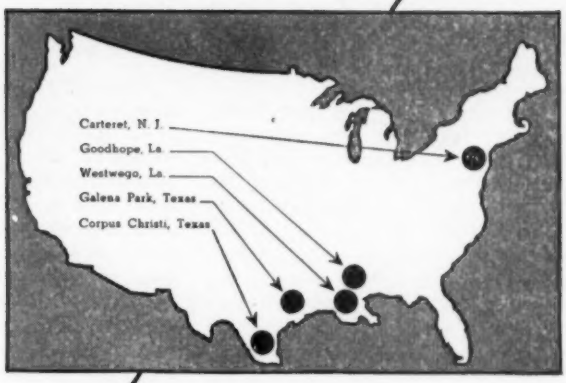
After long discussions between the Army advisers and the Baird & Tatlock technicians, it was decided that the principal source of power would be electricity, to be furnished by a small engine generator set. Auxiliary heating would be provided by means of alcohol burners. Normal low temperatures down to 0° F. could be secured with salt and ice mixtures. Extremely low temperatures for

World War I Bacteriological Laboratory

* Saybolt viscometer not available.



In tomorrow's new competitive battles . . .



watch these strategic locations . . .

. . . of General American Terminals

A General American Terminal is yours to use—without investment or operating expense. You get other competitive advantages: Accumulation of your products at important distributive centers, ready for efficient shipment from any General American Terminal via tank car, ship, barge, or truck. And your products are stored safely, scientifically, protected fully against contamination.

6 Exclusive General American Advantages for You

1 RELIABLE CUSTODIANSHIP. *Our warehouse receipts are highest type of collateral everywhere.*

2 SPEED with SAFETY. *Day and night crews eliminate delays.*

3 INDEPENDENT OWNERSHIP. *Strict Privacy. We do not buy, sell, or refine oils.*

4 MODERN PROTECTION. *Latest safety appliances; lowest insurance rates; minimum evaporation losses.*

5 LARGE TANK CAR FLEET.

6 NO CONTAMINATION. *Separate pumps, lines, storage zones for dissimilar commodities.*

GATX GENERAL AMERICAN

GENERAL AMERICAN TANK STORAGE TERMINALS

Goodhope and Westwego, La. *(Port of New Orleans)* • Carteret, N. J., *(Port of New York)*

Corpus Christi, Texas • Galena Park, Texas *(Port of Houston)*

A Division of General American Transportation Corporation

determining pour points of hydraulic oils and similar materials could be furnished by means of carbon dioxide alcohol and ether mixture.

The unit would have to be equipped with a water tank and water distillation still, and with storage space for carrying the great range of re-agents necessary to keep the unit operating independently for as long as three months, which it was considered at that time might be necessary in North Africa. Obviously, with electricity as a primary source of power for producing heat, some apparatus would have to be specially designed with electrical heating elements.

Constructed in Two Units

The basic decisions having been made, design of the laboratory was begun. It had been decided to construct the laboratory in two units and for this purpose, two standard 2½-ton long wheel base G.M.C. army trucks were provided. These trucks came complete with steel body, which proved to be a great asset, since the laboratory bodies were built by welding the framework directly to the bed. One unit was to be the laboratory proper, and the second unit, a stores truck, would carry the ice box, CO_2 cylinders, and 3½ KVA engine generator set. This truck would also carry extra equipment and re-agents, and could serve as the laboratory office. Power from the engine generator set was delivered to the laboratory unit by means of a detachable cable.

The bodies of the units were double walled and insulated. The outwise wall was steel and the inside plywood. The roof was of similar construction, but in addition, contained a duro steel shell which provided a 2 inch insulating air space. Four ventilators were built into the roof for keeping the air in the laboratory fresh.

Accompanying illustrations show diagrammatic lay-outs of the two units. The laboratory is entered through a windowed door in the middle of the rear wall. Folding steps which slide under the body give easy access. A second small door serving as an emergency exit is situated at the extreme front of the right wall. The body is furnished with two windows on either side. Each of these windows is equipped with a sliding screen, sliding, shatter proof glass, and sliding black-out board. Awnings over each window can be raised and lowered from the inside. The bench tops are of hard wood, oiled and polished. The bench on the left side is 16″ deep. At the back end is a transite lined fume cupboard complete with powered exhaust fan. The remainder of the bench carries several larger pieces of apparatus permanently fixed in place. These include a muffle furnace, a specially designed kinematic viscometer, and a regulation Engler distillation unit.

Racks Above Bench

The right bench is 20″ deep and contains a sink with triple taps near the center. Above the bench are racks containing the re-agents most frequently used. These racks are divided into felt-lined compartments for each bottle, the latter being held in place by removable bars. A small hot air oven is attached to the wall above the back end. The rest of the bench space is free. Both benches are provided with inserted sockets into which bars, serving as stands, can be screwed in or removed as required. Electrical sockets for hot plates are spaced at frequent intervals.

Built in resistances for regulating the amount of current required for any piece of apparatus are conveniently arranged. A 55-gallon water tank is built into the roof at the front end, and near the floor is another tank for catching reflux and cooling water. The water so saved is returned to the top tank by a hand pump. Directly under the water tank is a small water still and a distilled water jar. On the floor beside the lower water tank is a bank of storage batteries charged by a trickle charger from the generator. It is capable of furnishing sufficient power for operating the laboratory for short periods of time should the power from the engine generator set be temporarily unavailable. Electric lighting for the laboratory is operated on DC current from the storage batteries.

All the space under benches is divided into carefully designed compartments and drawers, into which fit all the pieces of apparatus required. Glass ware is held in felt lined recesses by metal clips. Delicate pieces of apparatus which might be damaged while the laboratory is moving over rough roads are fitted into specially designed felt lined boxes which, in turn, fit into the compartments under the benches.

One question which would immediately be raised by experienced laboratory men is how relatively cumbersome pieces of apparatus could be fitted into such small space. This proved to be a difficult problem, and was solved by specially designed standard apparatus. It is believed that a detailed description of some of the principal pieces of apparatus so designed would be of interest:

In order to avoid unnecessary duplication of temperature controlling units,

LABORATORY REPORT
(ALL TESTS ASTM UNLESS NOTED)

LAB. SAMPLE No.....
Name of Laboratory..... APO.....
PRODUCT..... Sample Date..... Storage Date.....
Obtained from (Code)..... Place Obtained.....
Type of Dump..... Container Type.....
Markings.....
Volume Sample Represents.....
Sampled By.....

TESTS COMMON TO MOST PRODUCTS

API GRAV.....=.....60°F.	COLOR (MT'D.....).....	ODOR.....
CLOUD.....°F.	FLASH (MT'D.....).....°F.	BS & W.....%.
POUR.....°F.	FIRE.....°F.	WATER BY DIST.....%.
COR. .....Hr. @ .....°F.....	SULPHUR (MT'D.....).....%.	ASH.....%.

VISCOSITIES

.....@.....°F.	.....@.....°F.	.....@.....°F.
.....@.....°F.	.....@.....°F.	VISCOSITY INDEX.....

(GASOLINE—KEROSENE—DIESEL) ASTM DISTILLATION, in °F.	(GASO KERO—DIESEL, CON'T.)	(GREASES)
IBP.....50%.....	WATER TOLERANCE.....cc/80ml.	WORKED PEN. @ 77°F.....
5%.....60%.....	FREEZING POINT.....°F.	UNWORKED PEN. @ 77°F.....
10%.....70%.....	ACID HEAT.....°F.	DROPPING POINT.....°F.
20%.....80%.....	OCTANE No. (MT'D.....).....	OIL CONTENT.....%
30%.....90%.....	T.E.L.....cc/gal.	TESTS SEE TCMP.
40 %.....95%.....	ANILINE POINT.....°F.	WATER CONTENT.....%
F.B.P.....°F Recovery.....%	DIESEL INDEX.....	FILLERS (INSOLUBLE).....%
Residue.....% Loss.....%	CETANE No.....	GYPSUM.....%
% Distilled at 167°F.....	(LUBE OIL——RESIDUAL FUELS)	FREE ALKALI.....%
% Distilled at 221°F.....	NEUTRALIZATION No.....	SOAP.....%
% Distilled at 284°F.....	STRONG ACID—BASE No.....	GLYCERINE.....%
Reid Vapour Pressure.....psi.	SAPONIFICATION No.....	FAT.....%
GUM (MT'D.....).....mg/100ml	CONRADSON CARBON.....%	ASH AS SULPHATES.....%
OXYGEN STABILITY.....Hr.	PRECIPITATION No.....	TYPE OF SOAP.....
DOCTOR TEST.....	STEAM EMULSION No.....	.....
.....	FOAM TEST.....in.	.....

THIS PRODUCT (DOES) (DOES NOT) MEET (ARMY) (NAVY) SPECIFICATION No.....

REMARKS:.....

DATE:..... SIGNATURE:.....

Sample of Laboratory Report Form

certain outlet sockets were wired with controlling rheostats in circuit, the rheostats being fitted to the walls in convenient positions. The supply from one socket was arranged to be controlled by an energy regulator with hotwire vacuum relay. The regulator effects control by interrupting the load current at short regular intervals, the on/off ratio being adjustable so that the mean output is continuously variable from zero to full load. This form of control is equivalent to introducing series resistance but involves no waste of power. These wall controls were used for the following apparatus: Muffle furnace, large and small hotplates, Soxhlet apparatus, Dean & Stark apparatus, flash-point, viscometer, Ramsbottom coke test, Engler distillation, etc.

A special universal water bath was designed to handle a number of the controlled temperature tests, viz. consistency, precipitation number, corrosive sulphur, cloud and pour points. Special interchangeable racks and supports were provided and the temperature regulator was calibrated at the test temperatures.

For ash tests a small electric muffle furnace with a flue at the back was made. Controlled temperature from 400° to 1000° C. were obtained by use of the energy regulator.

New Temperature Control

Carbon residues were estimated with a small 2-test Ramsbottom apparatus, in view of the difficulty of operating a Conradson apparatus electrically.

A special form of electric heater was devised to be used with both the Dean & Stark apparatus and the Soxhlet extractor.

A new principle of automatic temperature control was employed in the design of the constant-temperature bath for kinematic viscosity determinations. Three immersion heaters of low thermal capacity were fitted and these were put in circuit singly or in various combinations to keep the temperature slowly rising at the test temperature. By means of an additional resistance, introduced by an adjustable contact thermometer operating through a relay, the temperature was made to fall slowly. Temperature fluctuations were kept within prescribed limits by adjustment of the in-put differential by means of these two resistances.

The bath accommodated two U-tube viscometers, held in position by universal clamps, and a high-speed impeller-type stirrer was fitted. The rheostats, relay, and switches were mounted on a separate control panel on the wall.

Careful attention was paid to the question of heater replacements. Spare heaters for all electrically-heated apparatus were provided and detailed notes on the correct methods of fitting these were supplied.

Distilled water was obtained from a simple metal still fitted with a Liebig condenser.

A combined electrically driven pressure and vacuum pump was installed. By means of two special valves the pressure or vacuum side of the pump as required could be opened to the line and the other side to the atmosphere.

Some concessions had to be made in regard to the apparatus adopted due to the unavailability of some equipment. For example, a Redwood No. 1 viscometer was used in lieu of a Saybolt, and correlation charts were furnished for rapid conversion. A standard balance to one-tenth mg. was considered too delicate, and it was finally decided to adopt a rugged balance accurate to one-half mg., which would be sufficiently accurate since referee work would not be required. Also, IPT gum determination was used instead of ASTM. The lamp sulfur method was considered sufficiently accurate; procurement of a sulfur bomb would have required too much time.

Charts of the electrical system and diagrams of the arrangement of both units were furnished as guides for the operating personnel. All equipment and reagents were cataloged according to tests, each article or re-agent being listed according to drawer number or location in the laboratory. By this system, an operator, simply by looking on the chart under a particular test, could go directly to the proper drawers for all the equipment required for running the test. Tables and reference books normally found in a petroleum laboratory were assembled and installed. The uniqueness of the mobile laboratory is the manner in which stands, auxiliary equipment, etc. are arranged so that apparatus can be assembled, tests run, and apparatus removed to storage with minimum effort and maximum speed, and with minimum of interference with other tests being conducted.

In line with "stream-lining" the test procedures, a composite report form was worked out (see illustration). It will be noted that all normal tests are included on one sheet.

Improvements Are Noted

After completion, this unit was sent to North Africa together with its operating personnel. Experience there indicated that several improvements could be made. Accordingly, when a second mobile laboratory was built by Baird & Tatlock for the U. S. Army in the spring of 1944, a few more features were incorporated. Additional cooling equipment was installed so that 40 lbs. of ice could be made each eight hours. The cold test apparatus was tied into the refrigeration system, which was capable of supplying temperatures down to −25° F. without the use of carbon dioxide. The latter, therefore, could be reserved for those rare instances where extremely low temperatures were required. In addition, an ASTM gum apparatus, tetraethyl lead determination apparatus, ASTM sulfur bomb, aromatic content determination, foam tests for detergent oils, and ASTM oxidation stability were included.

It was further considered advisable, in the second laboratory, to equip it with both electrical power and bottled gas, the latter being propane. Much of the apparatus was therefore so designed that if the electrical power were interrupted it would be possible to operate with gas. It was also necessary in the second laboratory to supply more power. A 10 KVA engine generator set would have been adequate but, unfortunately, it was necessary to use a 15 KVA unit because none of the desired sizes was available. The engine generator set therefore had to be mounted on a trailer which was to be towed by one of the two trucks.

The second laboratory is comparable in scope of testing with a static laboratory with the exception of knock testing. Efforts are being made to adopt a portable Ethyl Corp. demonstrator engine for rough octane number determination.

For use by the operating personnel in the European Theater of Operations, a set of instructions covering the proper methods of sampling, handling, and testing petroleum products in the field was prepared. Most notable of these instructions was a paper written by Lieut. D. C. Sandy, USNR, for the inspection and testing of bulk petroleum products at the time of discharge from tankers and during storage and movement. This paper not only included all the standard methods for performing this task, but took into consideration expedients which might be encountered under war conditions, and described methods for improvising sampling equipment. Much work was done by D. L. Wright of the U. S. Embassy, Maj. L. B. Voshall and T/5 Bashears in the preparation of instructions for sampling and testing both our own and enemy petroleum products, and in explaining the significance of test results obtained in the field.

Construction of these mobile laboratories is but another example of how fast technological ability can be pooled and organized into a powerful force to help win the war which will preserve our democratic principles and privileges. Many people have freely and energetically contributed their ability and ideas to help create these mobile laboratories, which we might refer to as "tremendous details" in the technical war now being waged.

Johnson Oil Refining Opens Des Moines Sales Office

NPN News Bureau

CHICAGO—Johnson Oil Refining Co. has opened a new sales office at 314 Equitable Bldg., Des Moines, Ia., according to announcement here by H. G. Plane, sales manager.

"The idea is to get closer to our jobbers in that territory in order better to serve them," Mr. Plane explained.

L. C. Denning, assistant to Mr. Plane for the past eight years, who has been with Johnson since 1924, is in charge of the new office, which opened Sept. 1. Mr. Denning was a popular member of the Chicago Oil Men's Club, and before leaving, club members made him a "going away" present.

Rubber Director's Final Report—

Dewey Forecasts Huge Postwar Demand for Crude and Synthetic

U. S. Now Independent of Foreign Sources and Must So Remain, He Says; Plant Investment and Production Cost Figures Given

NPN News Bureau

WASHINGTON—NPN publishes herewith the text of the first portion of a special report of the office of rubber director on the synthetic rubber program.

This part includes an introduction by Col. Bradley Dewey, his last as rubber director, and a report on plant investment and production costs by E. R. Gilliland, assistant rubber director in charge of research and development and Harrison M. Lavender, Jr., of his staff. Second part of the report, Appendix A, giving the pre-war costs of production for plantation rubber, and prepared by Everett G. Holt, chief of the commercial research division of the Rubber Development Corp., will be reported next week.

First section of the report follows:

INTRODUCTION

Over 95 percent of the plants in the synthetic rubber program have been built with the taxpayers' money. They are public property. The product of a certain percentage will be needed in the postwar period. Cost of operation of many will be so low that at the end of the emergency, decisions will have to be made as to how they are to be operated. It is hoped that enough will be operated so as to protect this nation against the danger of ever again being cut off from supplies of rubber. The economy of this country is geared to rubber—civilian transportation rolls on rubber, armies smash to victory on rubber, airplanes must have it and surprisingly ships and navy equipment consume a large tonnage. Without the synthetic rubber now being produced in adequate supply, the war effort and victory would not be possible.

Unused standby plants of the complex type required to make synthetic rubber and basic materials, deteriorate rapidly. Chemists and chemical engineers do not stand still—research discovers improvements constantly which call for changes in plant equipment.

Because the decisions that must be made involve several hundred million dollars of public property—taxpayers' property, I believe that every interested citizen should have available as a guide to his thinking all of the information now available to this Office as to plant investment and costs of making various synthetic rubbers. Consequently, there is submitted herewith a report prepared by E. R. Gilliland, Assistant Rubber Director in Charge of Research and Development and Harrison M. Lavender, Jr., of his staff, setting forth pertinent data.

The Secretary of Commerce, Jesse H. Jones, has furnished me with information on estimated costs and sales realization of natural and synthetic rubber as of June 30, 1944. Although this report covers only an interim situation in an ever changing picture and will change with the ever decreasing costs incident to making more Buna S from butadiene from petroleum rather than from alcohol, nevertheless, I believe it will be of definite interest to those who will deal with the future of rubber. Under the direction of Mr. Jones, this nation collected a stock pile. This project was undertaken as early as 1940. Consequently, purchases of crude, receipts of realizations and costs of production of synthetic rubber are presented herein together with the analysis mentioned below as Appendix A. (*Text of Appendix A will be printed in next week's NPN.*)

Many who study the data in this report will naturally wish to make similar studies of the costs of plantation grown crude rubber. From these data and their own estimates of probable world demand for rubber in years to come, makers of such studies may or may not come to unanimous opinion as to the probabilities of postwar conditions and prices. Be this as it may, I feel that it is but proper that the public should have as much information as possible available to it. For this reason, there is included as Appendix A a copy of an article by Everett G. Holt, entitled "Pre-War Costs of Production for Plantation Rubber" which was prepared at my request. For many years Mr. Holt was Chief of the Rubber Division of the Department of Commerce and is now Chief of the Commercial Research Division of the Rubber Development Corporation. This report gives valuable factual data as to prewar costs of crude rubber together with interpretative discussions relating these costs to certain of the world trends which necessarily affected them. It is presented with the understanding that the comments and conclusions in it are the personal opinions of the author, but it is believed that because of the author's long association with this field, his analysis will be of interest.

In submitting the above reports, it is emphasized that this Office is not responsible for the ultimate disposition of the plants in the rubber program and does not here speculate as to their future. However, I am already on record as stating that I believe that the world demand for rubber after the war will be far greater than the capacity of the world's plantations before the war. This, together with the cost data presented herewith, leads me to the personal belief that not only will specialty rubbers be in demand, because of those qualities which are superior to crude rubber, but that Buna S will be in large demand at prices which will act as a governor and will set a ceiling on the world price of crude rubber. Further research will unquestionably improve the quality of all synthetic rubbers and there is every reason to hope that the time will come when crude rubber will be inferior for many uses to then available synthetics.

Regardless of whether or not sufficient crude rubber may ever be available to supply the postwar world demand at prices less than the cost of synthetic—a situation which I cannot foresee—I cannot conceive under any circumstances of anyone considering scrapping the low-cost producers of the synthetic rubber program. But were this the case, the country would have to decide only whether it should subsidize or keep the synthetic plants in apple pie standby condition ready to run.

However, I believe the postwar world demand will be so large that there will be need for all the crude rubber present plantations can turn out and also the production of the low-cost producers of the synthetic rubber program — from 400,000 to 600,000 tons. There should be no duties or subsidies or international agreements. This country is today independent for its supplies of rubber of other nations, of the effect of wars between other nations, or the destruction of plantations by plant blights. It must so remain.

BRADLEY DEWEY,
Rubber Director.

THE SYNTHETIC RUBBER PROGRAM
PLANT INVESTMENT AND PRODUCTION COSTS

by E. R. Gilliland and H. M. Lavender, Jr.

I. GENERAL SITUATION

To meet a national emergency the United States government undertook the production of synthetic rubber and the main essential ingredients for its manufacture. In this program, monetary considerations were definitely secondary to obtaining a sure supply of synthetic rubber in the shortest possible time.

To insure the success of this program in almost untried fields, it included a variety of different processes for the production of raw materials as well as several different types of synthetic rubbers.

The following considerations were important in selecting processes:

1. The probable adaptability of the final product as a replacement for natural rubber.
2. The state of development of a process.
3. The availability of the basic raw materials necessary for the production of the polymer and the necessary intermediates.
4. Military and industrial needs for special polymers.
5. The estimated time of construction.
6. The use of certain critical materials.

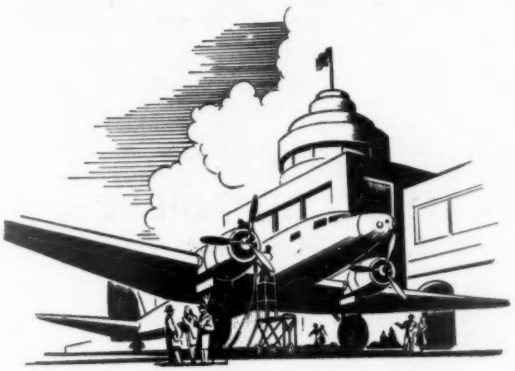
On the basis of these considerations Buna-S was chosen as the best general purpose rubber and became the backbone of the program. Butadiene and styrene, the two principal ingredients of this polymer, were being produced on a small scale and some of the technical problems concerned with their manufacture were known. In addition, several companies had carried out extensive research and development work over a period of years in this field.

The second main synthetic chosen for the government program was Neoprene-GN. This polymer had been produced on a commercial scale for almost a decade and had demonstrated its value as a synthetic rubber. How-

NOTE.—*This article is based on cost figures submitted by Rubber Reserve Company as supervisors of the Government-owned synthetic rubber plants. Most of these plants were provided for by the program originally laid out by Rubber Reserve Company and finished in accordance with the instructions of the Baruch Committee that they be "bulled through" to completion without further change.*

YOUR BOWSER FUELING SYSTEM

is engineered to your needs



Bowser Aviation Fueling Systems are made in a wide range of types and sizes, up to the high speed units with a delivery capacity of 4,000 g. p. m. If, however, your special needs are not met precisely by any of the standard Bowser equipment, we can engineer and build just the installation you require.

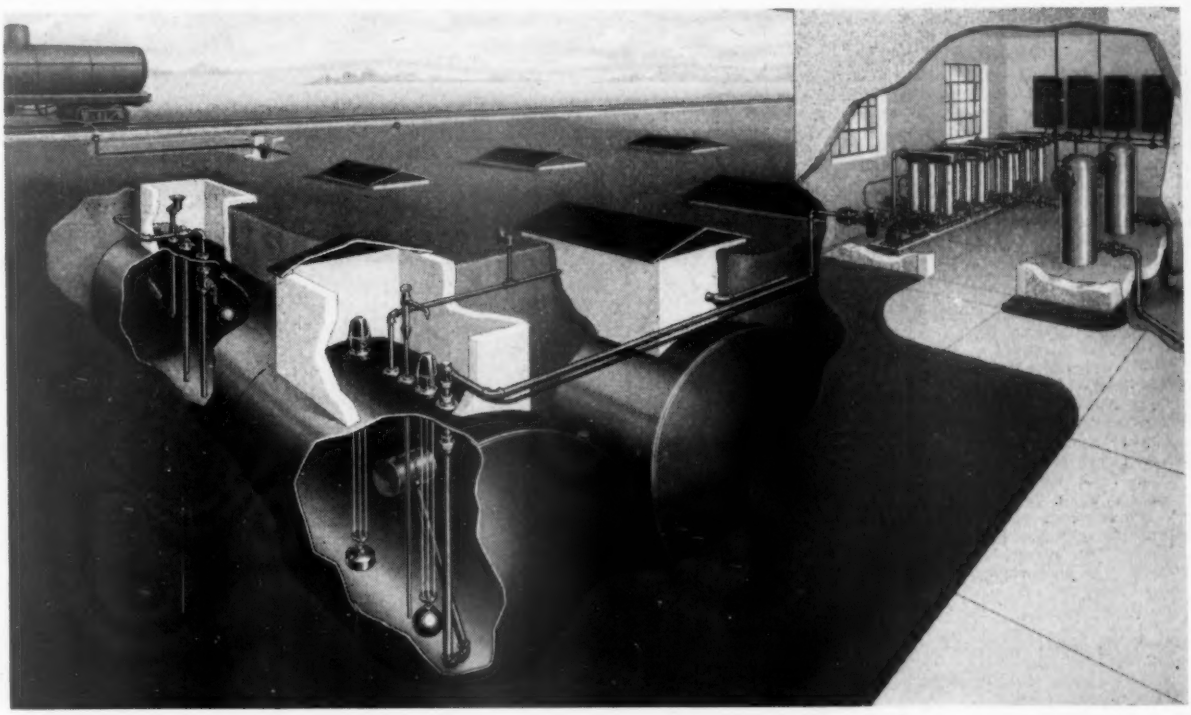
There are convincing reasons why Bowser Fueling Systems were selected for many of the major airports of this country, as well as by Pan-American for ports on both its Atlantic and Pacific routes.

Here are just a few of the more important reasons . . .

ACCURATE MEASUREMENT—With Bowser's famous Xacto Meter, the world's most widely used meter, every drop of liquid must be measured and recorded before it is dispensed. Xacto Meter easily meets the tolerances established by the U. S. Bureau of Standards and the Weights and Measures Departments of all States.

CLEAN, DRY, SAFE FUEL—A strainer, placed in the suction line ahead of the pump, catches any heavy particles, and any remaining dirt or free moisture is removed by the Bowser Centrifugal Filter. Removal of impurities and free moisture while the gasoline is being delivered is your conclusive assurance of clean, dry, safe fuel.

DEPENDABILITY—The dependability of Bowser Aviation Fueling Systems is supported by the company's experience as liquid control specialists since 1885, and by its specific experience in the fueling of planes, since the birth of the aviation industry. AVIATION DIVISION, BOWSER, INC., Fort Wayne 5, Indiana.



Not only has Bowser's war production earned the Army-Navy E . . . Bowser equipment has helped earn it for scores of other companies.

BOWSER ESTABLISHED 1885

★ ★ THE NAME THAT MEANS EXACT CONTROL OF LIQUIDS ★ ★

BUY WAR BONDS

ever, at the time Neoprene was considered to be less suitable for general purpose uses than Buna-S and it appeared that the production of the necessary raw materials would require certain facilities that were difficult to obtain. The program for Neoprene was, therefore, limited to the need contemplated for products requiring its special characteristics.

Butyl rubber was also chosen for part of the program, but it was felt that although data indicated that it was a synthetic rubber of considerable promise, the experience in both its manufacture and use was so limited that it would be unwise to gamble a major portion on it.

These three synthetic rubbers form the real basis of the government synthetic rubber program, but in the summer of 1942 the uncertainties were so great that the Rubber Survey Committee recommended the production of a limited quantity of Thiokol N for retreading and passenger tire production. It was realized that Thiokol N was a specialty polymer having solvent resisting properties that made it extremely valuable for certain uses but that it was not a rubber of high quality for general purpose uses. Since the raw materials and facilities that could be easily adapted to the polymerization were readily available, the Baruch Committee recommended a capacity of 60,000 tons per year. It was later found that due to the effectiveness of various conservation measures adopted and a rapid increase in the production of reclaimed rubber, it was possible to meet the situation without the use of Thiokol N and early in 1943 production as a general purpose rubber was abandoned.

In Table I the resultant program is compared with the recommendaions of the Baruch Committee. It will be noted in the table that there is considerable difference between the rated capacities of the present program and those recommended by the Baruch Committee. As the program was built, it became obvious that a number of the plants would be able to operate at over capacity and it was, therefore, decided that the necessary quantities of synthetic rubber could be made with plants of the rated capacities given in the table. The Butyl program was rerated from 132,000 to 68,000 long tons per year in recognition of the actual rate at which the plants are expected to operate with certain revisions and equipment additions over those contemplated at the time of the Baruch report. It will be noted that the rate of production of all synthetics for the fourth quarter of 1944 is less than the Baruch Committee recommendations; this is also less than the present productive capacity of the plants, but it is believed that the schedule corresponds to the probable consumption.

II. SYNTHETIC RUBBER PLANT INVESTMENT

Table II gives the capacities, production, and the estimated investment for the various monomer and synthetic rubber plants in the Government program. It is felt that the over capacity of these plants will be sufficient to produce synthetic rubber at the rates given in Table I for the ultimate capacities of the various synthetics. Private investment in synthetic rubber plants estimated to total less than $50,000,000 is not included in this summary.

(*Table I is on p. 32; Table II starts on p. 50; Tables III, IV and V are on p. 48; Table VI, p. 54*)

It will be noted from Table III that the plant investment cost per ton of capacity for the three synthetic rubbers, Buna-S, Butyl and Neoprene, indicates that the amount of equipment required is roughly the same. There are investments in private plants to produce such raw materials as alcohol, butylenes, naphtha, butane, ethylene, calcium carbide, soap and other necessary ingredients which are not included in the above study.

III. PRODUCTION COSTS

While the investment and operating costs were not the major consideration in establishing the government program, these are very important in indicating the postwar possibilities of the various materials. Today the operation of most of the government-owned plants has progressed far enough that a reasonably accurate picture can be obtained of both the present production costs as well as those likely to be realized in the future.

The following cost analysis has been based on the out-of-pocket operating charges. It does not contain any provision for amortization, sales expense, profit or interest on investment. However, it does include plant insurance, taxes, nominal royalties and a small management charge to cover expenses which are not capable of direct allocation and which may or may not include some profit.

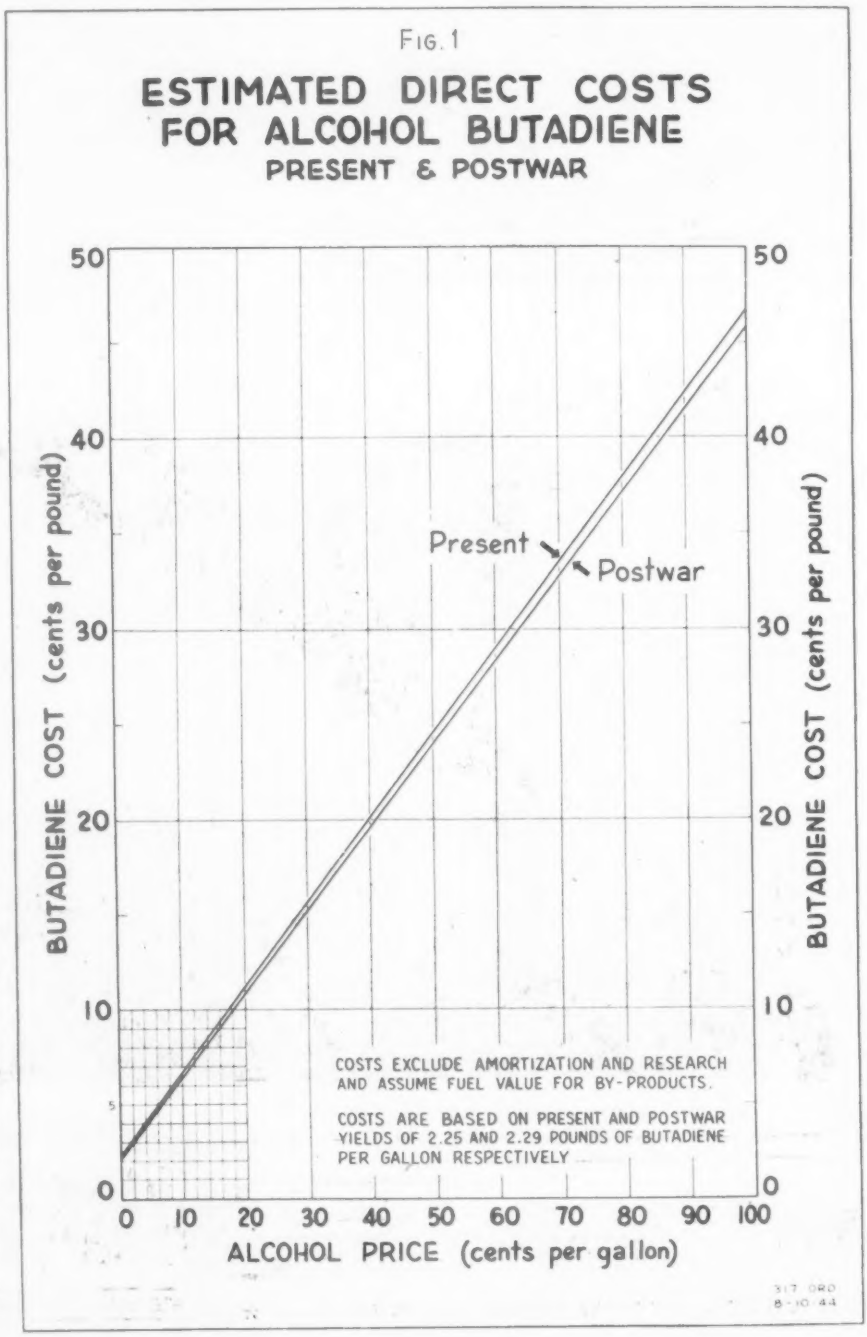
Amortization and interest on investment were not included in the considerations because of the uncertainty as to the basis on which the government will handle its investment. There are two points of view, one maintaining that synthetic rubber plants, like a battleship or a gun, are purely a war necessity and that the government should make no attempt to recover the full investment value. The other maintains that these plants are a going industry with possibilities of profitable operation after the war and should be disposed of as such. Those who are charged with the responsibility of their disposal will have to weigh the pros and cons in their decision as to what course is best for the national interest.

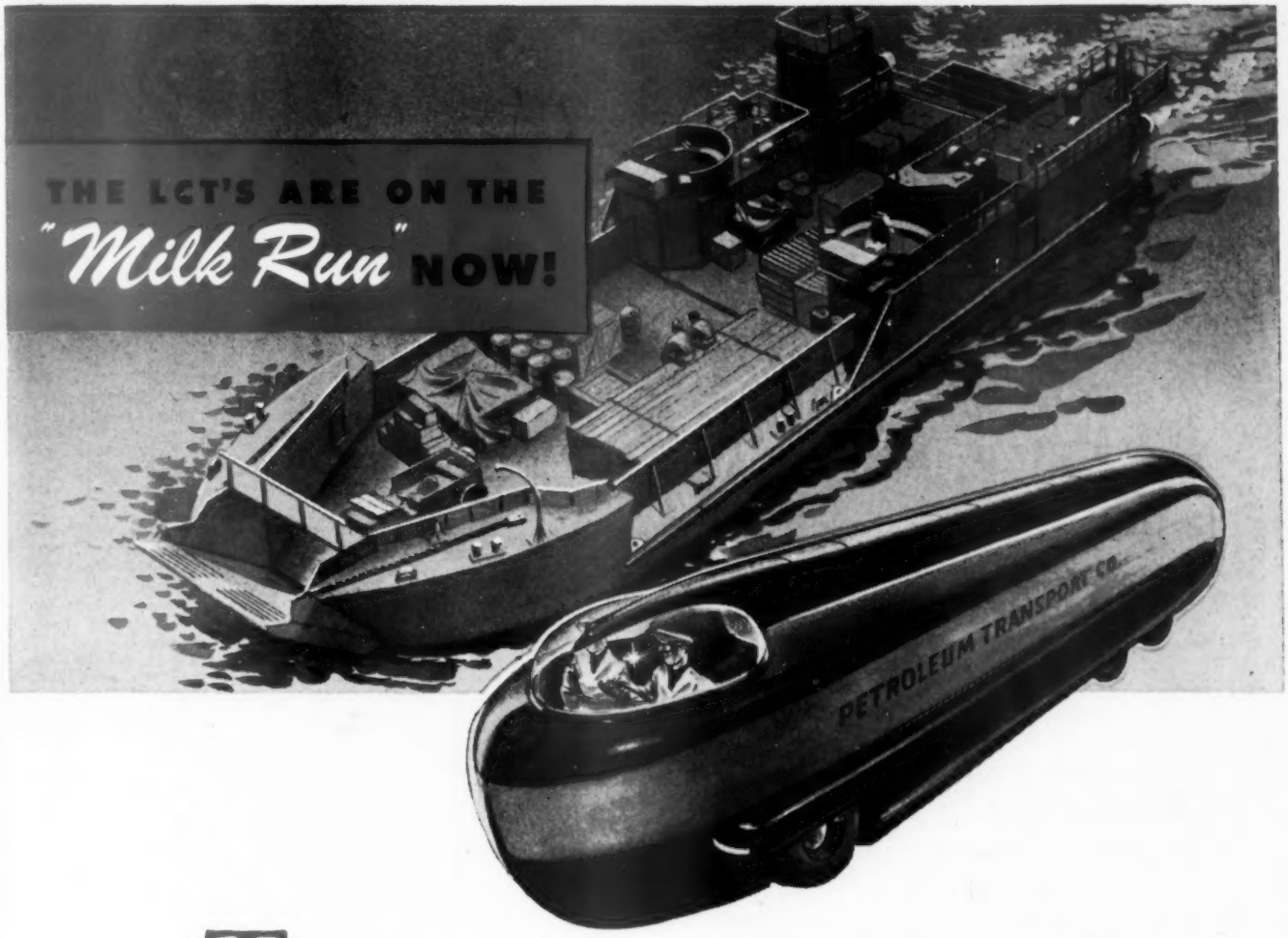
Because of the assured market for the products, selling expense to date has not been a major item in the rubber program. The uncertainties in this country's rubber policy are so great that any estimates of this item on a postwar basis are meaningless. The profits necessary to make the operation attractive are a function of the risks entailed in the private operation of the plants and they, too, cannot be accurately evaluated for the same reasons that selling expense is uncertain. Therefore, all of the costs in the following discussions exclude these four items and the resultant cost is the direct or out-of-pocket cost.

A. NEOPRENE-GN

Table IV presents the approximate current operating costs for Neoprene-GN, together with an estimate of its possible postwar cost. This cost includes feedstock and direct operating costs, but excludes amortization, preliminary

FIG. 1


ESTIMATED DIRECT COSTS
FOR ALCOHOL BUTADIENE
PRESENT & POSTWAR
BUTADIENE COST (cents per pound)
BUTADIENE COST (cents per pound)
Present
Postwar
COSTS EXCLUDE AMORTIZATION AND RESEARCH AND ASSUME FUEL VALUE FOR BY-PRODUCTS.
COSTS ARE BASED ON PRESENT AND POSTWAR YIELDS OF 2.25 AND 2.29 POUNDS OF BUTADIENE PER GALLON RESPECTIVELY
0 10 20 30 40 50 60 70 80 90 100
ALCOHOL PRICE (cents per gallon)
0 10 20 30 40 50
317 ORD 8-10-44



The situation has changed rapidly during the summer, with startling events in prospect during the months to come. Without being over-optimistic we think the time is right for planning your truck and tank needs now. Be prepared for the break when it comes.

The heavy production load carried thru the past years is a little lighter. We can use time now for developing new types of equipment needed when the petroleum industry gets back into normal domestic production. Eaton is ready to help you lead the way in storage and distribution equipment.

One of the chief lessons learned during the war time is the value of teamwork in production as well as in fighting. Let's keep ahead of the parade by doing our practice and testing "before the game." Write concerning your desires and specifications to Eaton Metal Products Co., Denver 16, Colo.

EATON METAL PRODUCTS

ARMY E NAVY

FOUR PLANTS to serve you better: Albuquerque—Billings—Denver—Omaha

TANKS · TRUCKS
BULK PLANTS

TABLE I—COMPARISON OF PRESENT RUBBER PROGRAM WITH BARUCH COMMITTEE RECOMMENDATIONS

A. Synthetic Rubber (Long Tons)

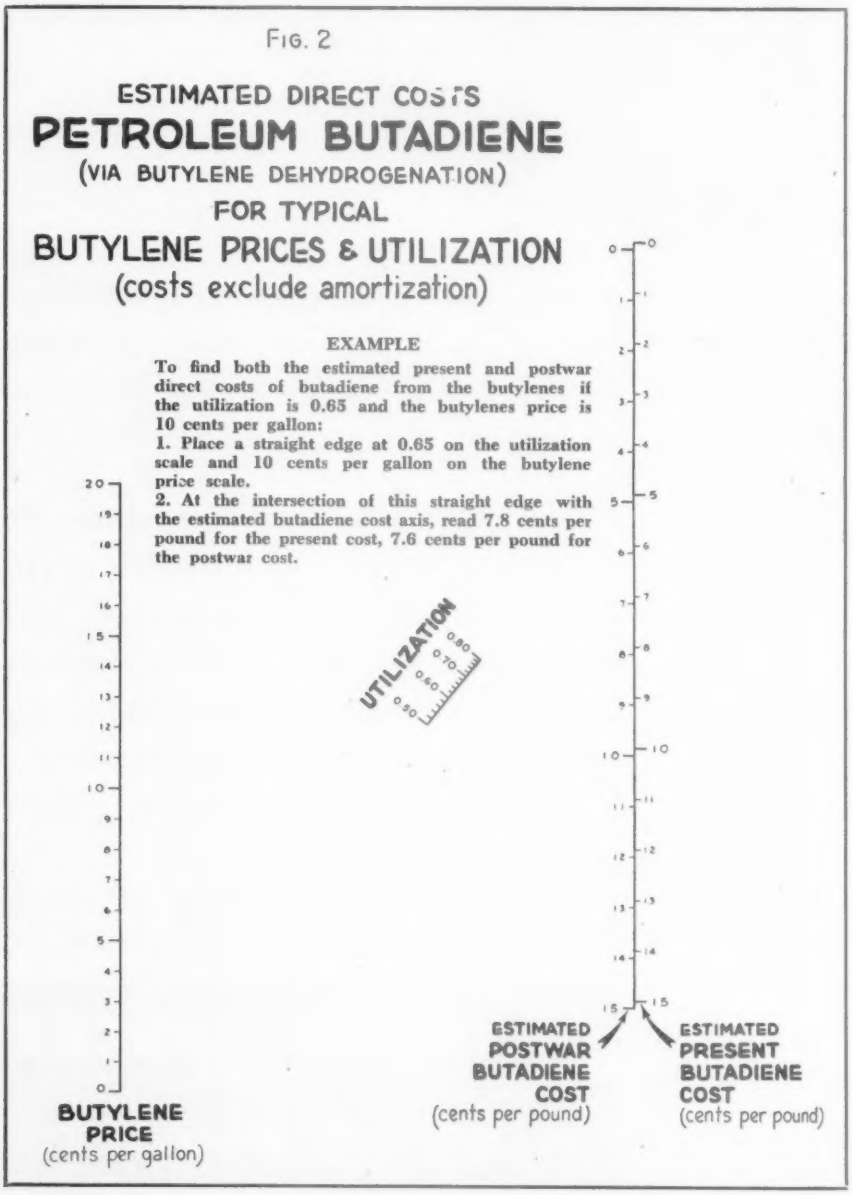
	Rated annual capacities			Estimated ultimate annual capacity with present plants U. S. and Canada	Estimated annual rate 4th quarter 1944, U. S. and Canada
	Baruch U. S. only	Present U. S. only	Present U. S. and Canada		
(1) Buna S	845,000	705,000	735,000	1,000,000	780,000
(2) Butyl	132,000	68,000	75,000	75,000	38,000
(3) Neoprene-GN	69,000	[1]63,000	[1]63,000	70,000	57,000
(4) Thiokol-N	60,000		Program suspended		
Total	1,106,000	836,000	873,000	1,145,000	875,000

[1] Including 14,000 additional tons of Neoprene plant capacity scheduled for completion during 1944.

B. Butadiene (Short Tons)

	Rated annual capacities		
	Baruch U. S. only	Present U. S. only	Present U. S. and Canada
(1) From Grain or Alcohol	247,000	230,000	230,000
(2) From Butane	60,000	75,000	75,000
(3) From Butylene	250,000	250,000	280,000
(4) From Naphtha	125,000	37,600	37,600
(5) From Combination of 3 and 4	85,000	55,000	55,000
(6) From Natural Gas by Aldol	.....	10,000	10,000
Total	767,000	657,600	687,600

FIG. 2


ESTIMATED DIRECT COSTS
PETROLEUM BUTADIENE
(VIA BUTYLENE DEHYDROGENATION)
FOR TYPICAL
BUTYLENE PRICES & UTILIZATION
(costs exclude amortization)
EXAMPLE
To find both the estimated present and postwar direct costs of butadiene from the butylenes if the utilization is 0.65 and the butylenes price is 10 cents per gallon:
1. Place a straight edge at 0.65 on the utilization scale and 10 cents per gallon on the butylene price scale.
2. At the intersection of this straight edge with the estimated butadiene cost axis, read 7.8 cents per pound for the present cost, 7.6 cents per pound for the postwar cost.
UTILIZATION
0.80
0.70
0.60
0.50
BUTYLENE PRICE
(cents per gallon)
ESTIMATED POSTWAR BUTADIENE COST
(cents per pound)
ESTIMATED PRESENT BUTADIENE COST
(cents per pound)

expense and research. It will be seen from the table that the present costs average approximately 24 cents per pound of Neoprene-GN, with acetylene purchased at 11.67 cents per pound. It has been estimated that acetylene may sell for approximately 7 cents per pound in the postwar market. This may result in reducing the cost of Neoprene to approximately 19 cents per pound. High as these costs may appear to be, Neoprene-GN, as a result of its special properties, should play an important part in the future rubber field.

B. BUTYL

The Government Butyl program is comprised of two plants, one located at Baton Rouge, Louisiana, operated by the Standard Oil Company of Louisiana, and the other located at Baytown, Texas, operated by Humble Oil & Refining Company. The Baton Rouge units have been in operation for up to 18 months whereas the construction on the Baytown plant is still being completed. Major operating difficulties have been experienced with the Baton Rouge plant. These have necessitated an extensive research and development program and major alterations to all of the units are being installed.

To date the maximum month's production for the Baton Rouge plant has been 41 percent of rated capacity. On the basis of this reduced operation it will be seen from Table IV that Butyl rubber is being manufactured for an average operating cost including feedstocks of 21½ cents per pound.

The above-mentioned research and development program, together with the alterations, should enable the Butyl plants to operate at capacities approaching rating. While it is not possible to predict accurately the ultimate costs on the basis of present experience, it is believed that Butyl rubber may be manufactured at an operating cost, including feedstocks, of 10 to 14 cents per pound. However, its status as general purpose rubber is still uncertain and it will take large scale manufacture, consumption and use before its ultimate position is determined. In any event, appreciable quantities of Butyl should be used as a special purpose rubber for cases where it is superior to natural rubber.

C. BUNA S

At the present stage of the program the most important evaluations of production costs are those for Buna-S type rubbers. It is the main general purpose synthetic rubber and will probably be the chief competitor of natural rubber. For these reasons the following cost analysis is largely limited to Buna-S and to its raw materials.

The main factors in determining the cost of the Buna-S are:

1. The cost of the raw materials for the production of butadiene and styrene.
2. The direct operating costs of the synthetic plants.
3. Amortization.
4. The geographic location of the plants.

BUTADIENE

The government butadiene program involves a number of different processes but it can be divided into four main categories based on the feed stocks employed. 1) Alcohol. 2) Butylene. 3 Butane. 4) Naphthas or other petroleum fractions.

1. *Alcohol process.* So far, the greatest tonnage of butadiene has been produced from alcohol and over the next six months it may still account for more than half of all production. It will be noted from Table II that the investment cost per ton of rated capacity is moderate and when it is considered that the plants have operated at over 180% of rated capacity, the investment per annual ton of butadiene, based on actual production, is less than $300. The alcohol butadiene program involves three plants containing 11 identical units each having an original rated capacity of 20,000 short tons of butadiene. The process was developed, designed and engineered by the Carbide and Carbon Chemicals Corporation. Two of the plants contain four units each, one located at Institute, West Virginia, operated by Carbide and Carbon, and one located

(*Continued on page* 48)

The sentinel that nothing can pass

In the four corners of the world,
On guard-duty day and night,
Tri-Sure Closures protect the fuel
In the fight for Freedom's light.

Out there, they guard those drums of oil
For the weapons our boys use,
And safeguard planes and tanks and jeeps
Their cargoes and their crews.

There's no seepage, there's no leakage
When these closures guard the fuel,
For the seal, flange and plug

. . . . . .

(A $100.00 War Bond will be given for the best last line)

Verse by Kay Twomey

WIN A $100.00 WAR BOND — A prize of a $100.00 War Bond will be given for the best last line suggested for the verse above. Try your hand now—and send along as many suggestions as you wish. Print or type your name and address, and mail to Contest Editor, American Flange & Manufacturing Co. Inc., 30 Rockefeller Plaza, New York 20, N. Y. Decision of judges is final.

Tri-Sure
Reg. U. S. Pat. Off.
CLOSURES

AMERICAN FLANGE & MANUFACTURING CO. INC., 30 ROCKEFELLER PLAZA, NEW YORK 20, N. Y.
TRI-SURE PRODUCTS LIMITED, ST. CATHARINES, ONTARIO, CANADA

ODT Forms Advisory Committee To Assist in Chicago Area

NPN News Bureau

CHICAGO — ODT office here last week announced the formation of a private carrier advisory committee for the ODT Chicago district. Its objective is to assist ODT in the maintenance of necessary private carrier operations in the Chicago district.

Committee members are: Glen Johnson, Bowman Dairy Co.; George H. Sibley, Jewel Tea Co.; Ralph Bentley, National Tea Co.; Martin Romeiser, Jewel Laundry Co.; A. H. Krueder, Wilson & Co., Inc.; Harold Weins, Purity Bakeries Corp.; and James Reedy, Hertz Driv-ur-self, Inc.

Texas-W. Va. Gas Pipeline Nearing Completion; Appalachian War Plants May Get Fuel Oct. 15

Special to NPN

HOUSTON, Tex.—The Tennessee Gas & Transportation Co.'s big 24-in. natural gas line—the line the trade said couldn't be built—will be finished by Oct. 1 and in operation by Oct. 15, Gardiner Symonds, company president has revealed.

Badgered by opposition from both Washington and Texas, and beset by labor and material shortages, the big carrier nevertheless will be pumping a maximum of 207 million cubic feet of gas daily to the power-starved Appalachian area within nine months after the first ditching machine went to work early last December.

Mr. Symonds emphasized that, of the $54,000,000 spent to build the line, not one cent was federal or public money. The Tennessee company is a subsidiary of the Chicago Corp., which has book assets of more than $33,000,000. The Chicago Corp. put up $12,000,000 of its own money and financed the remainder from banks and insurance companies.

"The line is being built as a war necessity," Symonds said. "The army needs the gas for war plants in the Appalachian area. Because of this we had the right of federal condemnation."

Practically all the line is underground. The cost includes $8,000,000 for seven pumping stations, $2,000,000 for right of way and $2,700,000 for river crossings. Every river from the Rio Grande to the Shenandoah is spanned.

Welding has been completed on 1027 miles of the line and 985 miles of pipe has been backfilled. Finished are 95% of the river crossings and 85% of the pumping stations. On 157 miles, final testing has been carried out.

10,000 Men on Job

The first welding took place on Jan. 10 of this year, and since that time 10,000 men have sweated and frozen through the swamps, valleys, and mountains of Texas, Louisiana, Arkansas, Mississippi, Tennessee, Kentucky, and West Virginia to complete the line.

Originating in the Stratton field in Nueces County, the line shoots up the Texas coast and terminates at the West Virginia state line just south of Huntington, W. Va. From there it reduces to an 18-inch line and goes on to the Kanawha River Valley near Charleston, W. Va., with eventual distribution in Kentucky, West Virginia, Ohio and Pennsylvania.

The line was built at the insistence of the WPB, which informed the Federal Power Commission that a new gas line "must be built" to supply the Appalachian manufacturing area with additional fuel during or before the winter of 1944-45 "in order to prevent the interruption of war production that would otherwise occur." The Federal Power Commission, in a later opinion, sustained the WPB and added that the line was necessary not only for war production but for postwar demands.

Texans Join in Protests

In the hearing before the FPC preceding the granting of the permit, the line was opposed by representatives of the National Coal Association and other coal interests and by the United Mine Workers of America.

The line was also opposed in Washington by Sen. W. Lee O'Daniel (D-Tex.) on the grounds that the line was part of a scheme of Eastern industrialists to pipe off all Texas' resources and deprive the state of its rightful place in the sun as a manufacturing center.

This objection was also voiced by Texas' Gov. Coke Stevenson and Railroad Commission Chairman Beauford Jester.

Tennessee officials met the argument with the contention that Texas' gas reserves are so tremendous (75 trillion cubic feet, plus undiscovered reserves)

Tankers, Big Inch Cut Further Into Rail Hauls

NPN News Bureau

WASHINGTON—Tank car shipments to Dist. 1 dropped last week to the lowest level since April 4, 1942, averaging only 564,436 b/d, down 28,989 b/d from the previous week.

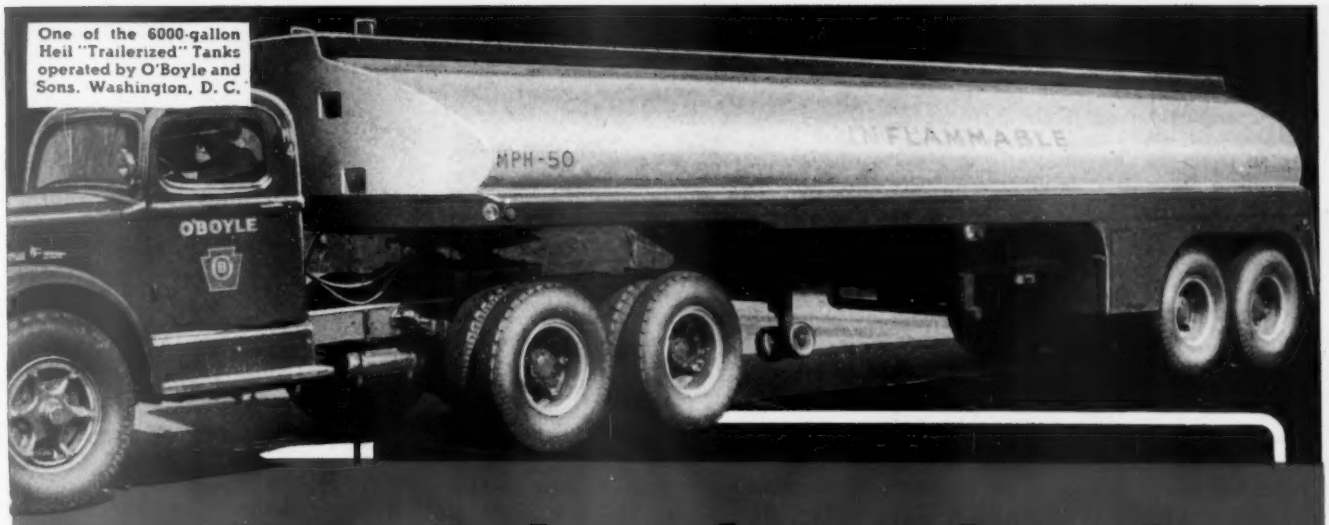
The drop continues the recent downward trend which is attributable partly to transfer of cars to the West Coast haul and partly to capacity operation of Big Inch crude line to Dist. 1, which has eliminated need for a large number of cars in dirty service.

As of Aug. 15, total cars still in service to Dist. 1 was 52,289, or 7231 less than on July 15. Steady withdrawal of cars is being offset in part by fact that there has been a small, but helpful increase in tanker deliveries Gulf to East Coast to around 130,000 b/d. In addition, tanker hauls from Caribbean continue at approximately that rate.

Latest figure indicating volume of rail hauls to Dist. 5 was for week ended Aug. 12, when product shipments averaged 101,000 b/d. The plan is to stop this movement up to 130,000 b/d, and eventually total will be raised to 150,000 b/d if Defense Supplies Corp. agrees to absorb excess cost of shipping 20,000 b/d of West Texas crude to California. Subsidy proposal has been pending for some time at DSC, with no sign of action yet.

According to PAW figures, loadings to Dist. 1 by reporting companies in week ended Sept. 2 follow:

Aetna	22	Daugherty	9	Roosevelt Oil	12
Allied	52	Drake	6	Root	54
Amsco	160	Eastern	44	Royal Petroleum	102
Arkansas Fuel	4	Elk Refining	9	Shell	663
Ashland Refining	137	Freedom Oil	6	Sinclair	353
Asiatic Petroleum	40	Gulf	1348	Socony-Vacuum	2621
Associated	184	Hartol	61	Southland	6
Atlantic Refining	1290	Hess, Inc.	14	S. O. California	4
Aurora	20	Jenny Mfg. Co.	64	S. O. Indiana	844
James B. Berry Sons	3	Libby	1	S. O. Kentucky	49
Cantelou	13	Ohio Oil	47	S. O. New Jersey	3185
Canton	16	Pacific	104	S. O. Ohio	105
Chalmette	19	Pan American	1171	Sterling	8
Cities Service Oil Co.	665	Pana	14	Sun	2268
Cities Service Refining Corp.	42	Petroleum Heat & Power	24	Talco	66
Coastal	2	Phillips	143	Texas	1356
Continental	455	Premier	1	Tide Water	49
Cooperative G. L. F.	3	Primrose	18	Tiona	3
Cosden	74	Pure	109	Triangle	"
Crown	11	Richfield	179	United	42
		Rock Island	1		



One of the 6000-gallon Heil "Trailerized" Tanks operated by O'Boyle and Sons, Washington, D. C.

To move a *lot* of gasoline *fast*

...the petroleum industry relies on these big, dependable, trouble-free Heil "Trailerized" (frameless) Tanks

Owners of Heil Trailerized Tanks have come to one definite conclusion — *they have increased their gallonage totals.* The answer is simple: Heil Trailerized Tanks are designed and built to keep rolling night after day, day after night—with minimum time out for repairs, and for those bothersome minor troubles that add up to major losses in time and gallonage. Fewer seams — less welding — elimination of buckles and loose metal — trouble-free running gear — many other Heil features account for the difference. If you want greater total gallonage, lower costs, and a reputation for "on-time" delivery, specify "Heil Trailerized Tanks" on your government applications.

Write for further information. T-87

★

Government Program
(through June 30, 1944)
makes these Heil "Trailerized" (frameless) Tanks available...

Gasoline
Single Axle: 4200, 4500, 5000 gal. and larger.
Tandem Axle: 5000 gal. and larger.
Trailerized Trains: 8000 or 8500 gal.

Butane, Propane
3550 and 4000 gal. payload.

★

ARMY E NAVY

THE HEIL CO.
GENERAL OFFICES • MILWAUKEE 1, WISCONSIN

One of the 5400-gallon Heil "Trailerized" Tanks recently shipped to Grant Oil Co. and to Schaeffer Oil Co., Omaha, Neb.

that the amount carried off by the pipeline at the end of its life expectancy wouldn't be a drop in the bucket.

Most potent argument for the line, however, was its effect on the price of natural gas at the well. At the time the line was started, the average price of gas in the Stratton-Agua Dulce field area was one and one-half cents per thousand cubic feet. The Tennessee Company announced it would post a price of around 4 cents a thousand, and take gas ratably from the fields through which it passed. This naturally raised a great howl from the pipelines which had long-term contracts to supply gas to various Texas cities based on the 1½ cent price, but was met with understanding favor by the land and lease owners, who had gas to sell.

Delivered price to the Eastern seaboard is expected to be between 30 and 40 cents per thousand. Tennessee has a contract with the Hope Natural Gas Co. to deliver half of the line's capacity at a price starting at 20½ cents per thousand for the minimum delivery amount of 75 million cubic feet per day, and ranging downward to 18¾ cents per thousand for delivery of 100 million cubic feet daily. This price steps up one-half cent per thousand every five years after date of first delivery. Tennessee also has a contract with Manufacturers' Light & Heat Co., a subsidiary of Columbia Gas & Electric Co., for delivery of the balance of the line's capacity at field cost, plus a transportation cost not yet announced. These two utilities will distribute the gas through the Appalachian industrial area.

The Chicago Corp. pioneered in the use of dehydration plants in Texas, which strip out the usable hydrocarbons from natural gas that are used in chemical processes, then return the dry gas to the strata from which it came. Only dry gas will be sent through the Tennessee line, Mr. Symonds said, and the hydrocarbons will be used in Texas for manufacture of plastics and chemicals.

Longer Wearing Synthetic Tires Seen in New Goodyear Tread

Special to NPN

AKRON, O.—A new tread design for truck tires manufactured from synthetic rubber has been announced by The Goodyear Tire & Rubber Co. The design is described as retarding the growth of tread cracks and reducing the running temperatures of the tires by as much as 50 degrees.

Goodyear engineers assert that the new tread design brings synthetic rubber nearer than ever to the performance goal of prewar truck tires of natural rubber. These engineers say the tire was developed especially to meet synthetic rubber's peculiarities rather than a new attempt to adapt methods used in the tread designs of natural rubber tires. Production is now under way on the new tires.

Army Air Forces Deny Idaho Stories of Gasoline Bonfires

NPN News Bureau

WASHINGTON—A charge of gasoline dumping and burning in Idaho was laid against the Army this week by Rep. White, of that state, who termed such action "beyond reason and little short of criminal."

A high official in the petroleum branch of the Army Air Forces immediately branded the charge as "obviously untrue," in a statement to NPN, adding that 10 to 12 letters making similar charges, sent by constituents to congressmen and then passed on to the War Department for investigation, had proved without foundation.

"The office files of Congress," said Rep. White, "are replete with reports of government extravagance and wasteful practices that many of us strive to correct to little avail. But a letter from a responsible educator addressed to Sen. Thomas (of Idaho) and sent to all the members of the Idaho congressional delegation calls attention to wasteful practices and destructive methods of the army in the state of Idaho that are beyond reason and little short of criminal."

Quotes Teacher's Letter

The congressman said that if "low-test" gasoline was being burned by the army, "then this practice of the army should be made the subject of a congressional investigation."

To support his charges, Rep. White quoted in full the letter sent by a Boise, Id., grade school principal to Sen. Thomas. The letter said, in part:

"For weeks, yes, months, we have noticed great black clouds of smoke back of Gowen Field. We have even mistaken it for an airplane wreck. Upon careful inquiry, these are the facts, if we may call them facts, we have been able to gather: When a tank (railway or truck) of gas comes into Owen Field that is under the required 110, or whatever the standard is, for high octane, the gas is dumped out and burned.

"Many people here know about this for I have been told this by a number of different individuals. Why steps to stop such waste have not been taken is a marvel to me . . . When we civilians have a hard time getting enough gas to carry on our legitimate occupations, it gets under our skins to have the army commit such colossal wastes. We are glad to save for a purpose, but we resent very much not only what that means to our already dwindling national oil reserves, but also what it means to the taxpayers' pockets and the use of such gas for civilians.

"We suggest that all members of the Idaho delegation in congress be apprised of this condition, for we feel that what goes on at Gowen is probably common practice in many, if not all air bases, or other bases, for that matter."

The Army Air Forces' petroleum official said that while 10 or 12 similar letters had come to his attention for investigation—all proving false in their charges—he did not recall having seen the letter quoted above. "However", he added, "it obviously is not true."

Shipments Returned

He went on to explain that when an air field received a shipment of aviation gasoline which was not up to specifications, the policy was for the shipment to be returned to the refinery so that it could be rerun.

When products already in storage at an air base become contaminated, as sometimes happens, he added, it is the army's practice to degrade the product to the "next possible use," and none ever is dumped or burned.

As one example of "baseless charges" made that the army was dumping gasoline, the official referred to a letter in which the writer told of seeing Army Air Forces tank trucks pouring gasoline onto a Florida beach. Investigation showed, he said, that these trucks were new ones just received at the air base, and that the material which the writer saw poured on the beach was water which had been used to calibrate the meters on the new trucks. All of the letters investigated, he summed up, proved to be in about the same category.

ODT Warns Transport Operators To Appeal Early for Rations

NPN News Bureau

CHICAGO—The ODT district office here will not process appeals for supplemental transport truck rations for any current quarter when applications are received at its office during the last seven days of a quarter, Frank T. Corcoran, Chicago district manager of ODT announced Sept. 7. This announcement follows an order issued by Harry L. Gormley, ODT regional director of the Division of Highway Transport. ODT officials hold that in the case of appeals filed during the last week of the quarter, the period in which such rations are valid often expires by the time the rations pass through the various channels necessary for issuance and eventually reach the truck operator.

1071 Safe Drivers Awarded Honors by Ohio Oil

Special to NPN

FINDLAY, O.—Ohio Oil Co.'s safety engineer, John C. Askam, has announced that 1071 employes operating company automotive equipment during 1943, have a record free of accidents. This is an increase of 110 over previous year.

A summary of safe drivers shows that the producing division had the largest number, 534, followed by the refining and marketing division with 288, and the pipeline department with 175.

Midgley Warns Science Needs Youth at Creative Peak

NPN News Bureau

NEW YORK—Science has urgent need of young, creative men, rather than oldsters who have passed the peak of their creative ability, in the opinion of Dr. Thomas Midgley Jr., president of the American Chemical Society and discoverer of tetraethyl lead.

Dr. Midgley, who is vice president of Ethyl Corp. made this declaration this week at the 108th meeting of the society here. His opinion is based on a study of the age factor in discovery and invention. He was only 33 when he achieved fame by his own discovery of tetraethyl lead.

"The extension of life, resulting from the applications of those principles regarding disease developed nearly a century ago, has produced a condition in society whereby too many men are being kept in service beyond the years when previously they would have been eliminated," Dr. Midgley says. "This is particularly true in those activities requiring originality for scientific progress.

"Their retention is denying advancement to younger men at the very age when these younger men may be expected to be entering those years when their maximum efficiency will be attained. Earlier retirement ages or transfer for men engaged in work requiring originality is indicated."

Dr. Midgley explained that he did not mean that men over 40 are of no use to society, for "it is too evident that they are," but added: "Their usefulness is distinctly of a different nature from the usefulness of youth."

General Petroleum To Expand

NPN News Bureau

LOS ANGELES—Officials of the General Petroleum Corp. last week revealed that they soon will build a $4,000,000 addition to their huge Torrance, Calif., refinery, adding facilities for refining 13,000 to 15,000 barrels of components a day.

Texas Federal Judge Issues Restraining Order To Block Government Seizure of Humble Plant

Special to NPN

DALLAS—The Humble Oil & Refining Co. has posted a $10,000 bond with the Federal District Court here guaranteeing damages to governmental agencies in case they had "wrongfully been restrained" from seizing the company's Ingleside, Texas, refinery and butadiene plant.

The novel restraining order was issued here Sept. 7 by Federal Judge W. H. Atwell against officials of the PAW, the WLB, Harold Ickes, and others, and set Sept. 14 for defendants to appear and show cause why a temporary injunction should not be issued. He also ordered the company to post bond, and attorneys complied before the deadline set by the judge.

Humble's petition, charged that the defendants were "threatening to use their own great physical force and that of a portion of the United States Army to enforce their illegal and wrongful seizure."

Humble declared that there were no labor troubles at the plant, and that the alleged threatened seizure was based on a desire of WLB to incorporate a maintenance-of-membership clause in labor contracts at the big plant.

Order Explained

Judge Atwell, in a verbal explanation of his restraining order, told a reporter later: "If the Humble company's allegations are true the defendants in this injunction order conspired illegally to seize the Ingleside plant, and the hearing which I set for next Thursday will determine this.

"What the WLB was apparently trying to make Humble do was to make them deduct union dues from the pay checks of the employes of the Ingleside plant. This service is not within the scope of the Smith-Connally Act and the WLB would have no right to compel Humble to do so," he added.

"There was an immediate threat of seizure, so I issued a restraining order Thursday at 4:30 p.m., only an hour and a half after Humble's petition was presented to me.

Wants Voluntary Action

"If the plant had been seized wrongfully, the war effort would have been impaired greatly because of the stopped production of high-octane gasoline.

"Moreover, Humble stated there was no labor trouble at the plant. If this allegation is true, seizure would have only precipitated such trouble."

Judge Atwell, who once restrained the OPA from forcing the Good Luck chain of Dallas filling stations to close down because of alleged gasoline coupon violations, remarked that "as a free American citizen I would like to pay my own union dues, not have them deducted from my pay check."

One of the 36 government officials which the Dallas County Clerk is subpoenaing is Garland R. Farmer, vice-president of the regional WLB board at Dallas.

"This is a matter which comes up frequently when someone doesn't want to go along with the board in its program" he said of the Humble action. "They have a right to appeal, but we merely pass on cases."

The Eighth Regional WLB Board at Dallas originally had rejected the demand of Local 316, Oil Workers International Union, CIO, for union maintenance in the Ingleside plant, but a majority decision of the national board upheld the union in a stormy session at Washington April 29 of this year.

Asked Judicial Review

In that hearing, James Tanham, a vice-president of the Texas Company, shocked the WLB with his request for a judicial review of the board's authority to grant union security. Tanham was one of the four members of the industry group on the panel who voted against the labor and public representatives in ordering union maintenance in the Humble case.

Mr. Tanham's declaration that, in his opinion, the granting of union maintenance was "unlawful" and that the matter should be submitted to a court test drew a sharp answer from Chairman W. H. Davis.

If Mr. Tanham were supported in his opinion, Mr. Davis suggested that one of them should resign, since the same board which disagreed on the lawfulness of an order could not enforce it.

The industry members, in their opinion, stated: "Because of the frequent challenge, by learned counsel, of the board's authority to impose its form of maintenance, we would welcome a judicial determination of that question. . .

"The issues raised by this case and the majority before us requires a frank and forthright statement.

"We are confronted with a theory of finality in the decisions of this governmental agency, without provision for judicial review, to which we cannot prescribe. We find expressed in the majority opinion a flood of idealistic declamations but a dearth of demonstration.

Would Deny Ideals

"We assert that the philosophy expounded by the majority leads inevitably to denial of the very ideals for which our country is fighting the present war. We condemn the majority proposed policy on union maintenance because, in our opinion, its application contemplates widespread undemocratic restriction of

★ ★ ★ ★ ★ ★ ★ ASSOCIATION

Bees are storing honey for the winter days ahead. Let's be wise, too, and plan an abundant future now.

Manufacturers of the

UNITED, RICHLAND,

DISTRIBUTED THRU

MEANS EVERYTHING

BACK of every business success are enduring friendships, priceless loyalties and the contacts with others who have helped to bring about that success.

Your future as an independent tire dealer rests upon the associations you form now... the loyal customers, the proven friends and your selection of a supplier whose interest it will be to strengthen ties through his help and services to you.

The Mansfield Tire & Rubber Company always has supported the independent jobber-to-dealer distribution plan.

★ ★ ★ ★ ★

Many successes in the past have grown out of the associations between petroleum marketers and independent retail dealers. The future holds even greater promise of profit and enjoyable relations. Gasoline and oil marketers, distributing tires for Mansfield, work for your interest—your profits—your ambitions. There's such a marketer near you, who will work with you—not against you.

THE MANSFIELD TIRE & RUBBER CO. • MANSFIELD, OHIO

Following Well Known Tires—

CENTURY, MANSFIELD

WHOLESALERS EXCLUSIVELY

the rights of workers and employers; because it would spread more or less indiscriminately in industry a device unproved as an aid to production; and because it would constitute a potent threat to harmonious industrial relations so necessary now and in the postwar period. . ."

Dr. Frank P. Graham, who wrote the opinion for the public members in the case, declared that the main foundation of the board's national policy is twofold: one, "that the maintenance of a voluntary established maintenance union membership is a national necessity for the stabilization of union-management relations during the war" and two, that such maintenance of membership as an equitable necessity "is enforced by the act of Congress requiring stabilization of wages."

(In Washington, Ralph K. Davies, deputy Petroleum Administrator, declared that the PAW does not have the authority to seize the Humble plant and hasn't undertaken to do so.)

"The dispute between the management of the Humble Oil and Refining Co. and the union is before the War Labor Board. The PAW has no jurisdiction in the matter," he said.

Company Failed to Comply

"As regards seizure of plants, again PAW has no authority and no responsibility. Only in the event of the issuance of an order to such effect from the President would the Petroleum Administration have any authority. No such order has been issued."

Washington reports quoted a spokesman for the WLB that the company had failed to comply with a previous board order requiring the maintenance of membership clause, but gave no indication of what further steps the board contemplated.

The Humble dispute came on the heels of the army seizure of the Hughes Tool Co. plant at Houston, now making army ordnance as well as oil supplies, but in peacetime one of the largest manufacturers of oil field equipment in the world. The seizure came after the company allegedly refused to install the maintenance of membership clause in their contracts.

In Houston, Humble officials expressed belief that their attempt to defy a WLB order will succeed where a parallel action in the Montgomery-Ward Chicago case did not.

They said that the difference was that they knew of the WLB's intention of taking over the Ingleside plant—where Montgomery-Ward was denied an injunction since WLB denied it contemplated taking over its facilities.

Humble attorneys told Judge Atwell of alleged telephone conversations threatening to take over the plant if the order was not complied with and eject the company officials. The petition alleged that the WLB had an official in the plant ready to call for army occupation.

Sen. Brooks Blasts 'Global Do-Gooders' Ready To Scrap Synthetic Plants; Barkley Denies It

NPN News Bureau

WASHINGTON — A blast at the "global do-gooders who would surrender America's synthetic rubber industry" was let loose this week on the floor of the Senate by Senator Brooks, of Illinois, who said that pressure to scrap these war-borne plants and facilities "must be resisted." (*First part of Col. Dewey's final report on rubber starts on p.* 28).

Sen. Brooks also asserted that, through the efforts of Winston Churchill, then Great Britain's colonial secretary, an act was approved that raised the cost of rubber to Americans more than $1,250,000,000 in six years. The senator added that he did not wish to disparage Winston Churchill but only wanted someone "to represent and defend the interests of our people as ably as he has always represented and defended the interests of his people."

Mr. Brooks let fly at the "global do-gooders" in these words:

"There are among us global do-gooders who would surrender America's synthetic rubber industry. They are the advocates of an international WPA to be financed by Uncle Sam. Their theory was epitomized by Vice-President Henry Wallace, a recent White House guest, when he advocated a quart of milk a day for all the underprivileged races in the world."

Cites 'Crackpot Theory'

He asserted that the "crackpot theory" was that the U.S. should wreck its synthetic rubber industry for the benefit of European empires, but a few minutes later, Sen. Barkley, of Kentucky—the "Dear Alben" who nominated the president for a fourth term—jumped to his feet to declare:

"I wish to say simply that I, myself, do not know of any responsible officer of the United States who favors the scrapping of the synthetic rubber industry. There may be such a person, but I do not know who he is, and I have seen no statement from any responsible officers of the United States indicating such a position."

In a slightly sarcastic vein, the Kentuckian went on to say that the fact that Vice-President Wallace at one time expressed the hope that some day every child in the world would be guaranteed a bottle of milk a day "would have nothing to do with the synthetic rubber situation, unless it might have some vague connection with rubber nipples put on bottles so that the children might consume the milk which he hopes they may all have."

Senator Barkley concluded his remarks by saying: "I certainly do not favor, by any stretch of the imagination, scrapping the synthetic rubber industry, and I repeat that I do not know of any responsible agency or person within the government of the United States who does believe in such a plan."

The Illinois senator remarked that he was "very happy" to have Mr. Barkley's authoritative assurance "that that is going to be our continued attitude."

"The difficulty, as I have found it" he said, "has been that many things are done and agreements are signed before we know about them, and I wanted to enter my protest against such a procedure."

Vandeveer Will Control Flow of Housebrand

NPN News Bureau

WASHINGTON — PAW this week disclosed the arming of Dist. 2 Director Vandeveer with a "big stick" which will enable him to assure equitable distribution of housebrand gasoline among all Midwestern suppliers and at the same time maintain capacity flow of regular grade eastward through the Sun-Susquehanna pipeline.

Action was taken by PAW Davies, in a letter dated Sept. 5 authorizing Mr. Vandeveer "to issue directives to suppliers in Dist. 2 which will require the delivery from time to time of housebrand gasoline to various suppliers in accordance with the following standards:

"(1) Deliveries of housebrand gasoline shall be directed to the supplier who lacks sufficient housebrand gasoline to meet the current requirements of his customers, or who needs such gasoline for shipment into Dist. 1 through the Sun-Susquehanna pipeline.

"(2) Directives shall be issued to suppliers whose current net inventory is in excess of that amount of housebrand gasoline needed to meet (A) the current requirements of his customers, and (B) the obligations to other suppliers supplied by him, including exchange obligations.

Telegram Prompted Action

"(3) In determining which supplier shall deliver housebrand gasoline to the supplier requiring gasoline, consideration shall be given first to the most efficient use of transportation facilities, and, second, to normal commercial relationships heretofore existing between suppliers."

Prompting the grant of authority to Mr. Vandeveer was an Aug. 31 telegram from the Dist. 2 director reporting on inability of various suppliers to meet current requirements of their customers because of a shortage of housebrand. At the same time, PAW was advised "that difficulty has been experienced in obtaining sufficient housebrand gasoline to maintain the Sun-Susquehanna pipeline at capacity operation."

450,000 MILES

OF WARTIME SERVICE!

CITATION

For

Extraordinary Highway Transport Service

IN SUPPORT OF THE NATIONAL WAR EFFORT

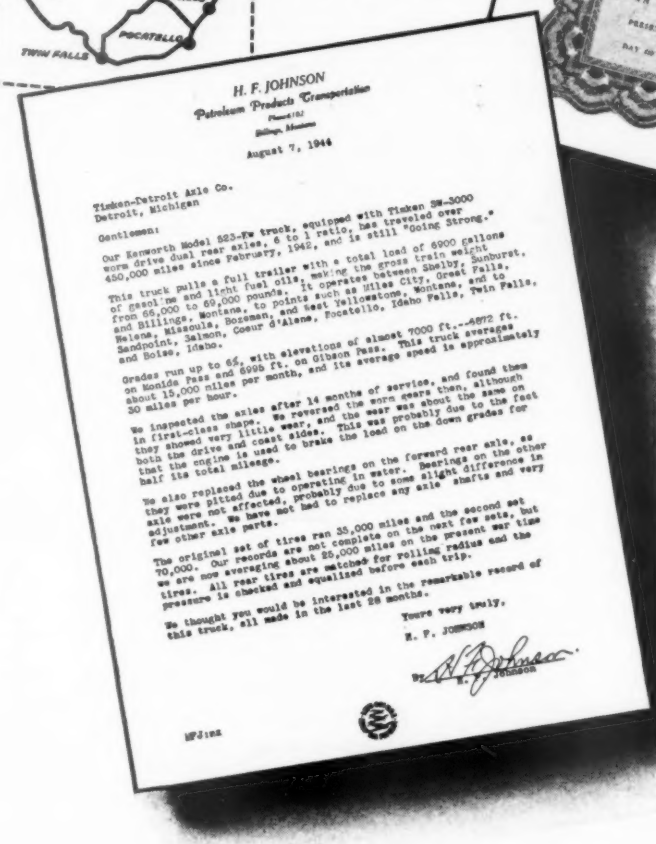
H. F. JOHNSON, BILLINGS, MONTANA

IN RECOGNITION OF A CONSCIENTIOUS TRUCK OPERATING AND MAINTENANCE PROGRAM RESPONSIBLE FOR THE RECORD OF TIMKEN AXLE EQUIPPED TRUCK — MILES IN 28 MO.

AN OUTSTANDING ACHIEVEMENT IN HIGHWAY TRANSPORT

PRESENTED THIS 30TH DAY OF AUGUST 1944

THE TIMKEN-DETROIT AXLE COMPANY


H. F. JOHNSON

Petroleum Products Transportation

Phone 182

Billings, Montana

August 7, 1944

Timken-Detroit Axle Co.
Detroit, Michigan

Gentlemen:

Our Kenworth Model 823-Fw truck, equipped with Timken SW-3000 worm drive dual rear axles, 6 to 1 ratio, has traveled over 450,000 miles since February 7, 1942, and is still "Going Strong."

This truck pulls a full trailer with a total load of 6900 gallons of gasoline and light fuel oils, making the gross train weight from 66,000 to 69,000 pounds. It operates between Shelby, Sunburst, and Billings, Montana, to points such as Miles City, Great Falls, Helena, Missoula, Bozeman, and East Yellowstone, Montana, and to Sandpoint, Salmon, Coeur d'Alene, Pocatello, Idaho Falls, Twin Falls, and Boise, Idaho.

Grades run up to 6%, with elevations of almost 7000 ft.—6872 ft. on Monida Pass and 6995 ft. on Gibson Pass. This truck averages about 15,000 miles per month, and its average speed is approximately 30 miles per hour.

We inspected the axles after 14 months of service, and found them in first-class shape. We reversed the worn gears then, although they showed very little wear, and the same on both the drive and coast sides. This was probably due to the fact that the engine is used to brake the load on the down grades for half its total mileage.

We also replaced the wheel bearings on the forward rear axle, as they were pitted due to operating in water. Bearings on the other axle were not affected, probably due to some slight difference in adjustment. We have not had to replace any axle shafts and very few other axle parts.

The original set of tires ran 35,000 miles and the second set 70,000. Our records are not complete on the next few sets, but we are now averaging about 25,000 miles on the present rear tires. All rear tires are matched for rolling radius and the pressure is checked and equalized before each trip.

We thought you would be interested in the remarkable record of this truck, all made in the last 20 months.

Yours very truly,

H. F. JOHNSON

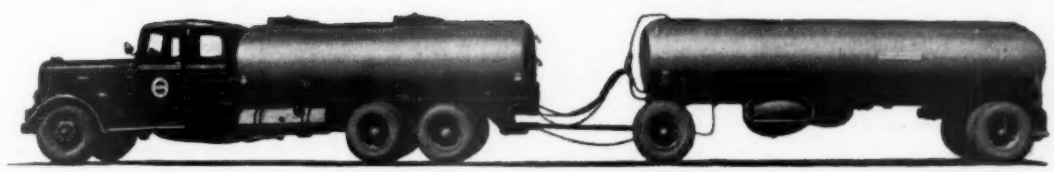
By H. F. Johnson

HFJ:ms

Mileage equal to 18 trips around the equator in less than two and a half years is the amazing record of this H. F. Johnson truck, operating over mountain roads in Montana and Idaho. Only a sturdy truck, skilfully driven and expertly maintained, could compile such a phenomenal record.

A Timken SW-3000 worm drive dual rear axle unit, original equipment on this truck, has contributed its full share to this wartime highway transport record.

Timken is proud to present the above Citation for Extraordinary Highway Transport Service to Mr. Johnson. Similar citations are being awarded to other operators, for outstanding performance and maintenance records, as the facts come to our attention.



38 YEARS OF AXLE ENGINEERING LEADERSHIP

TIMKEN AXLES — The Accepted Standard — DTA CO

TIMKEN AXLES

THE TIMKEN-DETROIT AXLE COMPANY, DETROIT 32, MICHIGAN

WISCONSIN AXLE DIVISION • OSHKOSH, WISCONSIN

Strippers in Combination Field Slated for Price Boost

NPN News Bureau

WASHINGTON—A formal order to MPR 436 is now in the works at OPA which will grant premium increases of 20c per bbl. to four pools in the Fitts Field, Pontotoc County, Oklahoma, effective Sept. 1, but only if their production is segregated from flush production in the remainder of the field.

In first such case of its kind formalized by an order to the crude price regulation, under the stripper well premium payment program, OPA has laid down a principle which is expected to control in other cases involving combination flush-stripper fields which are now under study.

Segregation of stripper and flush crude in such fields will necessitate some sort of metering system or installation of separate lease tanks, it is understood. In these fields where stripper pools are granted premium payments, these increases will only become applicable when crude is separated.

Phillips To Drill in Canada

Special to NPN

BARTLESVILLE, Okla. — Entering Canada for the first time, Phillips Petroleum Co. is starting a test in section 22-18-5w5th on the Sullivan creek anticline, about 15 miles west of the southwest flank of the Turner Valley oil field. Road is under construction to the drill site and equipment was scheduled to move in last week.

The test is on an approximate 3000-acre block acquired from Walter S. Campbell of Edmonton. Immediate objective is the Madison formation at about 1500-2000 ft., but the well probably will be carried down to the Devonian at 5500 ft., a company spokesman said.

Reports New Oil Sand Found

SHREVEPORT, La. — Discovery of a new oil producing sand in the Holly Ridge field of Tensas Parish has been reported by the Union Producing Co., which will attempt to complete dually its Penrod-Jourden 10, located 667 feet north and 1774. feet east of the southeastern corner of Section 20-11-10E.

Jester Dissatisfied With Ickes' Reply on PAW Dissolution; Carries Fight to Washington

Special to NPN

AUSTIN—Unimpressed by PAW Administrator Ickes' declaration that the federal government will get out of the oil business after the war, Railroad Commission Chairman Beauford Jester said he will take the matter to Washington in a few days to present to the Texas congressional delegation.

Col. Jester had written Mr. Ickes asking what plans are being made to liquidate PAW when the war is over and return control to the states. In his answer, Mr. Ickes said, in part: "I repeat and reiterate what I have said many times. The Petroleum Administration for War is a war agency. Its regulations and restrictions are being relaxed and revoked as rapidly as war conditions permit. The only regulations of the PAW which even indirectly affect matters over which your Commission has jurisdiction are those which regulate the use of materials for the drilling of oil and gas wells on tracts of prescribed areas. . ."

Reply "Not Complete"

To this, Col. Jester replied:

"What about the PAW certifications of demand which we have carefully agreed to?

"What about the regulation that requires that after a well has been completed for production of distillate, we must wait 15 days to get a PAW permit to produce?

"What about PAW's control over refining and transportation?

"Mr. Ickes' reply is not a complete statement of the PAW's powers."

Besides control over spacing and the other factors mentioned by Col. Jester, PAW has, ever since the war started, controlled the amount of oil Texas produced by its monthly certification orders. These orders even specify what type of oil shall be produced, where it shall be made available, and the percentage of which shall be distillate and natural gasoline.

While the Railroad Commission is not bound legally to observe these certifications, the commission has been very careful to do so. As one commissioner put it: "The first time we issued a proration order conflicting with the PAW recommendation, the next month we would find the federal government issuing field orders and taking over our commission under its war-time powers."

Col. Jester said he would take the suggestions sent in by Texas oil men as to what restrictions could be relaxed to Washington to present to Texas congressmen.

Col. Jester sent copies of his letter to Mr. Ickes to the members of the Texas delegation, and some of the released excerpts follow:

SEN. TOM CONNALLY: ". . . . You may be assured that I shall bear in mind your views and suggestions with respect to the resumption of state control of the entire regulation and conservation of oil and gas in Texas. My record will show I have helped to maintain state control."

SEN. W. LEE O'DANIEL: ". . . . I am taking up this matter with Mr. Ickes today and you will be advised further in reference thereto as promptly as possible."

REP. GEORGE MAHON: ". . . . I am very sympathetic toward the views which you have expressed, and I am glad to know of your efforts."

REP. SAM RAYBURN: ". . . . I feel certain that when the war is over we will return to the natural and I trust sensible things to do. You understand, of course, that the laws we have passed here for the emergency or practically every one of them will be automatically repealed not later than six months after the war. Few if any of them will be extended beyond that period and if any are a great necessity will have to be shown."

REP. HATTON W. SUMNERS: ". . . . I have not time at the moment to give the matter consideration, but I will state, as a general position, that I am in favor of putting into the States every bit of governmental power that they are capable of exercising. Of course, in order for the States to resume and retain their governmental powers we of the States must make special effort to see to it that we properly exercise the powers possessed, and as they are acquired. I have observed in the study of government that power to do a thing is not disposed to remain where it is not properly exercised; and that it is in the smaller units of government where the improper exercise comes most directly under observation. When the power is moved to Washington, speaking generally, it is beyond the observation and the comprehension of the average person, which adds to the danger resulting from such concentration."

REP. RICHARD M. KLEBERG: ". . . . I appreciate your action in writing to me concerning this matter and I shall check into it with your expression in mind."

REP. J. J. MANSFIELD: ". . . . I have read the copy of your letter to Mr. Ickes, and I want to assure you that I endorse every word of it and will render every possible assistance in carrying it out."

REP. ALBERT THOMAS: ". . . Let me say that you have written a very sensible letter to Ickes and I subscribe to it whole-heartedly."

REP. MILTON H. WEST: ". . . . The contents of your letter directed to Mr. Ickes have been noted, and I am pleased to inform you I shall be glad to co-operate with interested parties in bringing about the above-mentioned proposals."

"Water Well" Spouting Oil On Pennsylvania Farm

Special to NPN

BUTLER, Pa. — Being thirsty, Cooney Ball drilled himself a well. But instead of striking water, at 65 feet he struck oil which last reports indicated was blowing at the rate of a barrel an hour—worth about $80 a day.

Oil men were mystified by the flow, agreeing that, since there were no known oil sands under Cooney's well, it must be a "water push".

Cooney's only comment was that he allowed he would have to buy himself a drink.

● PERIODIC CHECKS have revealed that Spark Plugs rank among the first five items in sales volume, with both wholesaler and retailer.

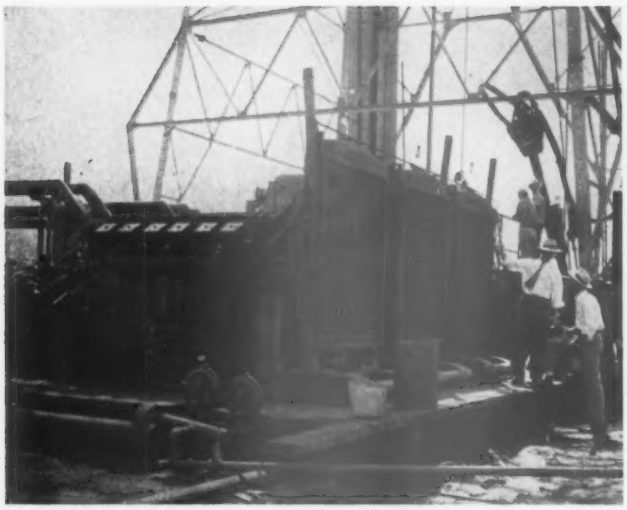
Champion policy has always been to protect its price structure to the limit—to maintain, at all costs, fair and equitable profits for wholesaler and retailer. In support of this, Champion maintains more sound advertising, merchandising and sales promotional activities than any other spark plug manufacturer.

Thus, in so far as it is within our power to do so, Champion Spark Plugs are preestablished as one of the top automotive replacement and service parts, in terms of volume, turnover and profits. Whether spark plugs represent just pin money or folding money is up to you. The potential with Champions is there, and the record backs it up.

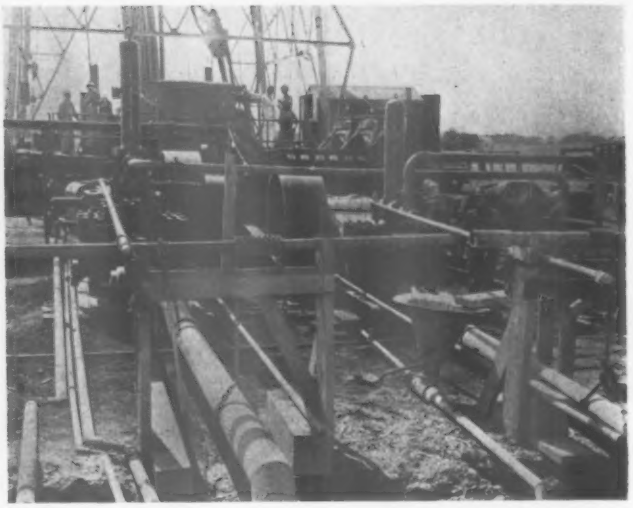
ARMY E NAVY

DEPENDABLE Champion Spark Plugs

BUY WAR BONDS—MORE THAN BEFORE TILL THE END OF THE WAR



Three 420 h.p. gasoline engines operate this 12,000 ft. rig in the West Edmond Field, Oklahoma



From slush pit to draw works. These photos mirror Sohio's activity in the West Edmond Field

PAW Estimates West Edmond Yield at 42,800 b/d By December, Well Below Industry Forecasts

NPN News Bureau

CHICAGO — Report compiled by PAW's Dist. 2 production division on present and possible future development of the West Edmond field in Oklahoma, on which the necessity for construction of an additional trunk pipeline is to be judged, appears very conservative in most respects when compared with other studies of the field by industry. PAW places the possible ultimate production of the field at 100,000,000 bbls. of primary oil by Jan. 1, 1960, from 23,000 surface acres, and estimates daily production for December 1944, will average 42,800 b/d from 234 wells. Comparable estimate by a large operator is that 275 producing wells will be completed by the end of 1944, and that the field will be making 50,000 b/d under present 200 b/d allowable.

"Engineers are still guessing as to ultimate recoveries," said this large operator, "and while published estimates have set the reserves at 117,000,000 bbls., it is certainly conceivable that the field may produce as much as 150,000,000 bbls. of oil. The PAW report summarized the current situation this way:

Proved acreage, drilled and undrilled	13,350 acres
Total producing wells, Aug. 5, 1944	100
Drilling wells, August, 1944, (average)	80
Drilling wells, September, 1944, (estimate)	90
Drilling wells, October, 1944, (estimate)	100
Average number drilling wells, Oct., 1944 to March, 1945	100
Average drilling time per well	80.6 days
Average production per well	183 b/d
Average daily production for the field, April, 1945	60,000 b/d
Total producing wells April 1, 1945	333

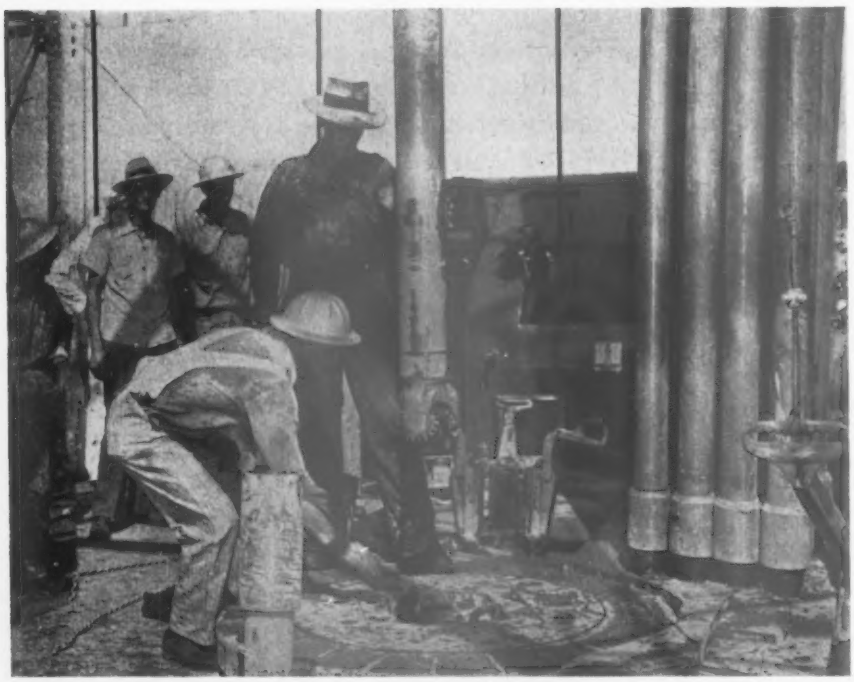
The average drilling time per well of 80.6 days includes everything from spudding to completion, but does not include moving and miscellaneous inactive time.

Daily Allowable Reduced

"From the best information available to this office and information submitted by some of the operators interested in the field," PAW said, "we have determined that during the month of September, 1944, there will be an average of 90 active drilling wells, and commencing with October and continuing until the present proved acreage has been drilled, there should be 100 active drilling wells."

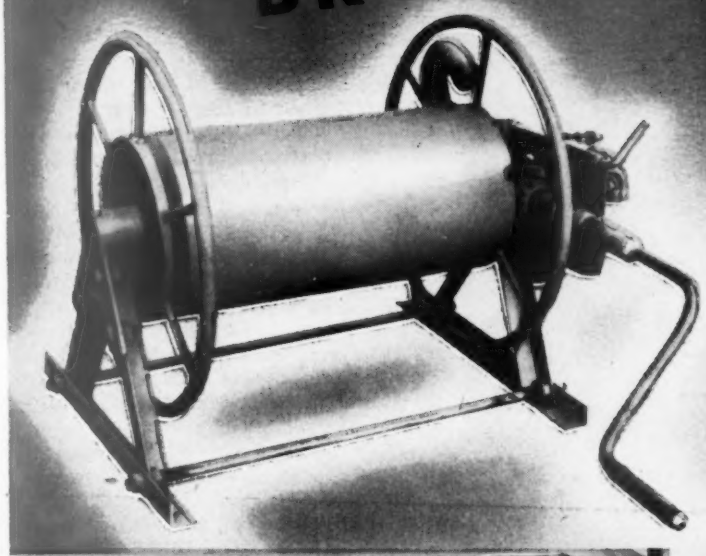
Oklahoma Corporation Commission's daily allowable per well is 200 b/d. But due to smaller edge wells, some producing from other than the Hunton lime and some with high gas-oil ratio, PAW reduced the average daily production estimate to 183 b/d per well. "Applying this average to the 333 wells, which it is estimated will be completed by April 1, 1945," PAW said, "it is indicated that the daily production from the field will be 60,000 b/d commencing April 1, 1945."

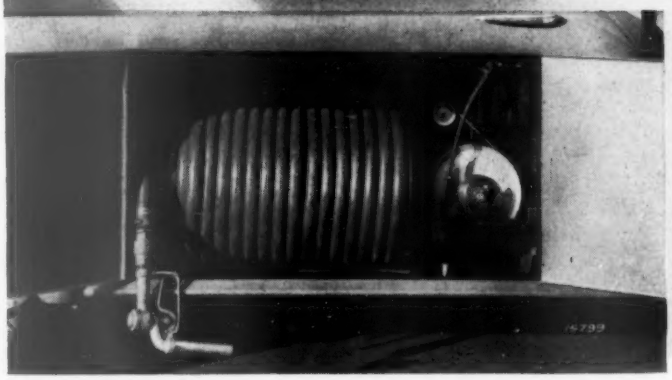
"It is our opinion," PAW continues, "that after the completion of 333 wells on all of the present proven acreage, that the rate of development in this field will decline unless additional major extensions to the field are made prior to the time the 333 wells are completed and unless there are major extensions, it is quite probable



Sohio workmen install a new bit in the drilling of No. 2 Cook at West Edmond

This BROWNIE HOSE REEL OFFERS IMPORTANT BENEFITS TO EVERY PETROLEUM TRANSPORTER





A Brownie hose reel fits easily into fender box and accommodates ample hose capacity. Easy to connect to pump.

Brownie-built truck tanks have built-in Brownie hose reels on side or rear. Double-doors close over reel, hose.

▶ Prompt delivery to your customers is the *best* way to keep them satisfied . . . and the best way to win new customers for tomorrow, too.

Brownie hose reels are now available to help you do the job. Installed on your truck tanks, they will make oil and gas deliveries *easier* and *faster*, despite unusual demands for service and shortage of help.

SPEEDS UP OIL, GAS DELIVERIES

Every minute saved on each call gives you that much more time for additional deliveries during the day. That is why the free-operating, rugged Brownie reel—strongly built for years of dependable service—helps you reach more customers. You can make a call, pull out the hose, complete delivery, and reel in hose with minimum effort and no waste of time.

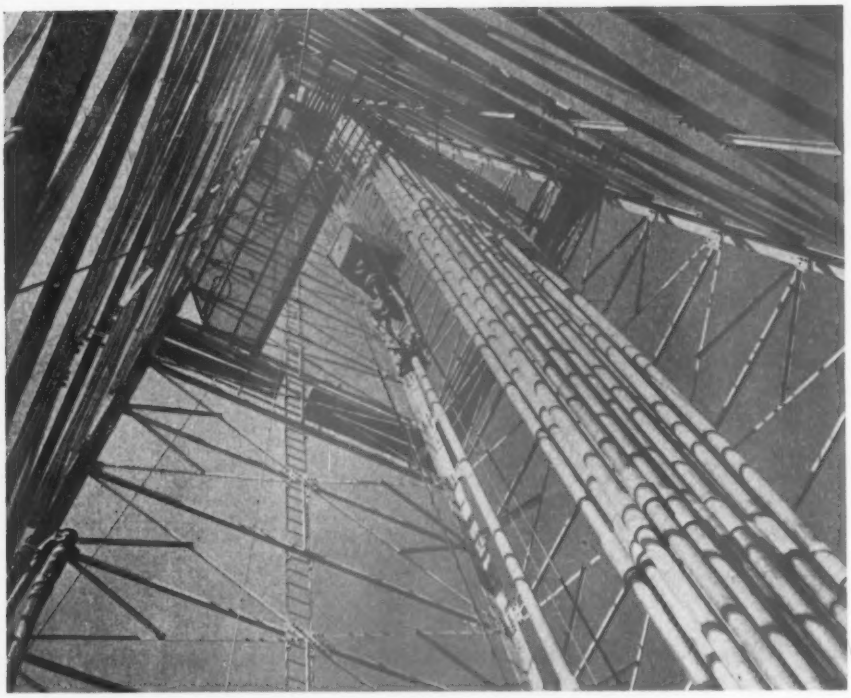
BUILT FOR EASY OPERATION

Brownie reels are designed for smooth-running, convenient operation combined with exceptional strength and rigidity. Use of spider gears, long-life bearings, all-welded spokes and housing on reel and other features give easy operation with ample rigidity for tough use. Has efficient, anti back-lash brake. Wet type swing joint allows direct connection to power pump or manifold. Easy to install in rear box or underslung at side on long wheelbase trucks.

WRITE TODAY for details and prices . . . giving inside dimensions of box.

BROWN STEEL TANK COMPANY

NOT AFFILIATED • ONE OFFICE, ONE PLANT • MINNEAPOLIS, MINNESOTA



Coming out of the hole of Sohio's No. 2 Cook at West Edmond

that the daily production of 60,000 b/d forecasted for April 1, 1945, will not be increased by subsequent drilling."

A supplemental study of the field reported by PAW shows that at the present time recoveries by primary dissolved gas drive may be expected as follows:

	Area Acres	Ultimate Recovery—Primary Oil Bbls.
Proved—drilled	4,000	24,000,000
Proved—undrilled	9,350	56,000,000
TOTAL	13,350	80,000,000
Additional probable	3,930	12,000,000
TOTAL—probable ultimate	17,280	92,000,000
Additional possible	5,720	8,000,000
TOTAL—possible ultimate	23,000	100,000,000

Considering the daily average production per well and the present upward trend of completions, PAW gave the following productivity as that which may be expected for monthly periods ending April 15, 1945:

Date	Cumulative Wells	Estimated Production
July, 1944	79	16,750 b/d
August	100	18,500
September	126	23,000
October	156	28,500
November	192	35,500
December	234	42,800
January, 1945 (cold weather slump)	276	50,500
February	297	54,300
March	318	58,100
April	333	60,000

Cumulative number of producing wells is figured as of the first of each month, and the estimated production is the average for the month. Total of 333 wells, PAW said, completes full development of the present proven acreage on 40 acre spacing, at which time probably peak production will be reached.

"If the field produces at 60,000 b/d until Jan. 1, 1948," PAW continues, "it will be about 72½% depleted, and thereafter it should set into a wide open limestone production decline curve until it is depleted at about 100 million barrels ultimate by Jan. 1, 1960. Estimated cumulative production is figured as follows:

Date	Barrels
July 1, 1944	2,334,859
Jan. 1, 1945	7,388,000
July 1, 1945	18,000,000
Jan. 1, 1946	28,500,000
Jan. 1, 1947	50,500,000
Jan. 1, 1948	72,500,000
Jan. 1, 1960	100,000,000

"Present evidence," PAW said, "indicates that the pool is on primary dissolved gas drive, which is the most inefficient of natural drives, and may be expected to recover not more than 200 bbls. per acre foot. Production rates have little influence on ultimate productions in such reservoirs, and ordinarily it might be advantageous to deplete them rapidly; but the results of maintaining pressure by running extraneous water into non-productive edge wells in the Smackover lime reservoir of the Midway field in Arkansas, would make it appear that similar benefits might be obtained in the West Edmond Hunton pool, which has about 400 ft. of productive closure."

Ask $1,000,000 in Suit

Special to NPN

DALLAS, Tex.—Minority stockholders of the Seatex Oil Co. of Dallas have filed a suit in federal court here seeking $1,000,000 in damages against the Seatex company, the Red Bank Oil Co., and several individuals.

U. S. Takes Over Hughes Co.'s Plants in Labor Dispute

Special to NPN

HOUSTON, Tex.—The main plant and the aircraft strut plant of the Hughes Tool Co. here, one of the largest manufacturers of oil drilling tools in the world, came under the control of the U. S. Army this week as a result of a labor dispute which a presidential order said threatened interruption of production.

The plants were seized when the company failed to comply with a WLB directive which ordered Hughes to renew its contract with the United Steel Workers of America (CIO) and include in the new contract a maintenance of membership clause.

Troops were not moved into the property. All executive personnel of the company was retained. A group of army officers under command of Col. Frank W. Cawthon, assistant supervisor of the midwest procurement division of the Air Technical Service Command took charge of the plants.

The company has raised a question of whether the union still represents a majority of the employes. A petition of the company for an election, however, has been denied by NLRB. The firm has appealed to the courts.

Report New and Deeper Sand In Wyoming Gebo Pool

Special to NPN

PONCA CITY, Okla.—Development of a new oil field in Wyoming was assured here this week with announcement by Continental Oil Co. of the discovery of a new and deeper oil sand in the new Gebo pool, Hot Springs county, Wyoming.

Continental's Gebo unit No. 3 flowed 1,402 barrels of 26 gravity oil from the Tensleep sand, in the first test made of this structure in the area, according to W. C. MacMillan, vice-president in charge of production. Production in the Tensleep is from 4,880 to 4,983 ft.

Continental Oil Co., which had previously drilled two wells in the Gebo pool, producing from the Embar lime from 4,680 to 4,968 ft., has a solid block of 6,240 acres under lease, said MacMillan.

Seize Four for 'Threats' In Drill Crew Walkout

Special to NPN

LUBBOCK, Tex.—Sheriff's officers and Texas rangers have arrested four men in connection with a walkout of drilling crews on three wells being put down by the Milohahn Drilling Co. in the Sundown Field near here.

Hockley County Deputy Sheriff E. P. Barbee said no violence had occurred, but pickets had "threatened" men who sought to continue work. The four men arrested were held in jail at Levelland for investigation.

The can that helps catch life-saving fish will bring you fish you've never caught!

● You've seen plenty of cans like it! It's just a round tin can. But you'd be amazed at its contents today.

It carries lines, lures, hooks—even dried pork rind. In short, it's a complete fishing kit for fliers forced down at sea.

Thousands of these cans are being made to help fliers catch life-saving fish. That's one reason why you can't buy all the things you'd like in cans—certain fish, for instance.

But someday soon you'll get them—and they'll be fish you've never caught! For example: appetizing and nutritious soupfin shark, sablefish, anglers and many other varieties.

And they'll come to you as wholesome and ocean-fresh as the salmon, sardines and tuna you still enjoy in cans today. Cans are perfect containers for fish—each a miniature "cooking kettle," sealed and safe.

To do our war job we've developed new ideas and new skills, too. That's why as we look ahead we see *new and better things in Continental cans.*

POST-WAR PLANNING: We'll be glad to discuss future uses or improvements of your product or package and help in your post-war planning. Write Post-War Planning Dept., 100 E. 42nd Street, N Y.C., or Continental Can Company of Canada, Limited, Montreal.

CONTINENTAL CAN COMPANY

NEW AND BETTER THINGS IN CONTINENTAL CANS

Awarded to Plant 78, Chicago • Illinois

ARMY E NAVY

SAVE TIN CANS—HELP CAN THE AXIS

FINAL REPORT OF RUBBER DIRECTOR

(*Continued from page 32*)

at Kobuta, Pennsylvania, operated by the Koppers United Company. The third plant of three units at Louisville, Kentucky is operated by Carbide and Carbon.

These plants have operated for over a year and their production costs are well determined. Average production costs from the three plants above the cost of the alcohol feed stock for the butadiene are summarized in Table V. The operating charges of approximately 2c per pound of butadiene are small in comparison to the cost of the alcohol employed, which for an ultimate yield of 2.25 pounds of butadiene per gallon of 190 proof alcohol, amounts to about 40c per pound of butadiene with the present alcohol price in the vicinity of 90c per gallon. Therefore, the economics of the alcohol butadiene process are largely those of industrial alcohol production and the resulting cost of the butadiene is given in Figure 1, as a function of alcohol price. Estimates on industrial alcohol for large scale consumption after the war have ranged from as low as 12c to as high as 20c per gallon. Using a somewhat optimistic price of 15c per gallon the resultant direct cost of the butadiene is estimated to be 8¾c per pound.

2. *Butylene Dehydrogenation Process.* The main process for the production of butadiene in the petroleum field is based on the dehydrogenation of normal butylene. The process was developed by the Standard Oil Development Co. but has been modified and adapted by a number of operators using this process to fit different feed and product purification systems. The estimated operating costs for these plants above the cost of butylenes, as given in Table V are considerably higher than those for the alcohol butadiene plants. Consequently, any reduction in these charges plays a much more important part in the cost of the butadiene produced.

At the present time the larger dehydrogenation plants have not achieved stabilized operation and therefore, their operating costs have fluctuated widely. For that reason the estimates given in Table V are based mainly on the cost data available on two of the smaller dehydrogenation plants. However, they have been adjusted to some extent to reflect the expected ultimate cost for the larger units. An attempt has been made to forecast these operating costs for the postwar period and the results are presented in the same table. The cost of the butylenes necessary to produce a pound of butadiene depends on both the market price of butylene and the ultimate level of the yields (utilization). Consequently, in the Figure 2 the butadiene cost is presented as a function of the butylene utilization (pounds butadiene produced per pound butylene consumed) and the net cost of butylenes themselves. Currently butylenes range from about 8c to 12c a gallon and the utilization ranges from 0.60 to 0.75. With 0.65 utilization and 9½c per gallon butylene (about present average value) butadiene costs approximately 7.6c per pound. In the postwar picture it should be possible with a utilization of 0.65 and butylenes available at 6c per gallon to produce butadiene by this process for as low as 6.4c per pound.

3. *Butane Dehydrogenation Process.* Three plants are included in the government program to produce butadiene from butane. One of these was developed and designed by the Phillips Petroleum Company, its operator and the other two, utilizing the Houdry Dehydrogenation Process, are operated by the Standard Oil Co. of California and Sun Oil Co., respectively. Sufficient experience in stabilized operation has not been obtained on any of these plants to predict ultimate costs. However, preliminary indications are that one or more of the plants will be able to produce butadiene competitively with the butylene dehydrogenation units.

4. *Naphtha Cracking Process.* The processes based on naphtha give a relatively small weight percent of butadiene (yields of 2½ to 5%) and, therefore, their economics involve the evaluation and disposal of a large number of other products. At the present time it does not appear that these processes will be competitive with some of the others except for a very small amount of production for which integrated facilities are available for the utilization of a high percentage of the by-products. It is unlikely that these naphtha processes will be a major influence in future butadiene prices.

5. *Summary.* To summarize, at the present time butadiene from alcohol costs approximately five times as much as butadiene from the low cost butylene dehydrogenation. The cost of butadiene from alcohol will continue to be high as long as the price of alcohol is based largely on the cost of grain. If, in the postwar period, sufficient alcohol can be obtained synthetically from petroleum or from molasses or other low cost agricultural products, this cost differential will close rapidly and the two processes would be competitive, if the prices of alcohol and butylene were approximately 9½c and 6c per gallon, respectively, or 15c and 13½c, respectively. These prices of alcohol are somewhat less than are generally estimated for the postwar market and on the basis of the present calculations it appears that the butylene and butane dehydrogenation plants will be the low cost butadiene producers. However, an improvement in the Carbide and Carbon process resulting in a higher yield of butadiene from a given quantity of alcohol or recovery of certain by-products which at the present time are credited at fuel value would make the picture for alcohol butadiene more favorable. In addition, there may be a certain geographical advantage to the alcohol butadiene plants relative to the location of the petroleum butadiene plants in that they are more closely situated

(*Continued on page 54*)

TABLE III

A.—U. S. GOVERNMENT BUNA S

	Basis 1—Average investment per annual ton estimated individual actual butadiene, styrene & copolymer capacity ($/LT Buna-S)	Basis 2—Average investment per annual ton estimated actual copolymer capacity ($/LT Buna-S)
Butadiene investment	$324	$380
Styrene investment	71	91
Miscellaneous chemicals and facilities investment	14	14
Copolymer investment	178	178
Total investment	587	663

NOTE.—Basis 1 butadiene and styrene investments are less than Basis 2 since the ultimate capacities of the butadiene and styrene plants are greater than the ultimate capacity of the copolymer plants. If the full operation of these plants is made possible by outside sales, Basis 1 applies; if their production is limited solely to Buna-S demand, Basis 2 applies. Basis 1 assumes 0.813 short tons of butadiene and 0.250 short tons of styrene are required per long ton of Buna S.

B.—ALL U. S. GOVERNMENT SYNTHETICS

Synthetic	Investment per long ton estimated actual capacity
Buna S, basis 1 above	$587
Buna S, basis 2 above	663
Butyl	779
Neoprene-GN	717
Average all synthetics (Buna S on basis 2)	675

TABLE IV—NEOPRENE-GN AND BUTYL PLANT OPERATING COSTS

(Cents per pound of product including feed stocks but excluding amortization, preliminary expense, research)

	—Neoprene-GN— Present cost Acetylene @ 11.67c/#	Postwar cost Acetylene @ 7.00c/#	—Butyl— Present cost
1. Production materials:			
(a) Feedstocks	11.10	6.70	2.51
(b) Other chemicals	4.19	4.19	4.12
Sub-total	15.29	10.89	6.63
2. Utilities	1.33	1.33	1.71
3. Other Costs:			
(a) Operating labor	1.50	1.39	3.51
(b) Supervision	0.13	0.13	0.20
(c) Repairs and maintenance	1.22	1.22	3.08
(d) Operating supplies	0.79	0.79	
(e) Laboratory	0.30	0.30	0.92
(f) Packing and shipping	0.29	0.29	0.76
(g) Plant overhead	....	....	2.75
(1) Salaries, wages	1.29	1.19	
(2) Insurance	0.05	0.05	0.14
(3) Taxes	0.04	0.04	0.06
(4) Miscellaneous	0.40	0.40	0.25
Sub-total	6.01	5.80	11.67
4. Royalties and management fees	1.89	1.75	1.50
Total	24.52	19.77	21.51
5. By-product credit	—0.48	—0.40	....
Total out of pocket	24.04	19.58	21.51

TABLE V—BUTADIENE, STYRENE & COPOLYMER PLANT OPERATING COSTS

(Cents per pound of product excluding feedstocks, amortization, preliminary expense, research)

Items	Butadiene: From alcohol Present	From alcohol Postwar	From butylene (dehydrogenation) Present	From butylene (dehydrogenation) Postwar	Styrene— Present	Styrene— Postwar	Copolymer Present	Copolymer Postwar
1. Chemicals (excluding feedstocks[1])	0.18	0.13	0.57	0.50	0.42	0.42	2.10	1.90
2. Utilities	.95	.75	1.20	1.20	.46	.46	.26	.26
3. Other costs:								
(a) Operating labor	.14	.12	.48	.44	.27	.25	.52	.45
(b) Supervision	.02	.02	.07	.07	.06	.06	.05	.05
(c) Repairs and maintenance	.19	.30	.62	.60	.23	.30	.40	.40
(d) Operating supplies	.04	.03	.15	.15	.01	.01	.02	.02
(e) Laboratory	.04	.03	.25	.25	.05	.05	.10	.10
(f) Packaging and shipping	.01	.01	.02	.02	.01	.01	.33	.25
(g) Plant overhead	....	....	.20	.20				
(1) Salaries, wages	....	....	.20	.20	.16	.15	.33	.30
(2) Insurance	.02	.02	.06	.06	.03	.03	.03	.03
(3) Taxes	.02	.02	.01	.01	.01	.01	.08	.08
(4) Miscellaneous	.32	.27	.15	.15	.27	.27	.09	.09
Sub-total other costs	.80	.82	2.21	2.15	1.10	1.14	1.95	1.77
4. Royalties and management[1]	.51	.63	.65	.63	.68	.63	.52	.51
Total	2.44	2.33	4.63	4.48	2.66	2.65	4.83	4.44
5. Byproduct credit	—.23	—.14	....	....	—.14	—.14	....	....
Total out-of-pocket	2.21	2.19	4.63	4.48	2.52	2.51	4.83	4.44

[1] Management fee is scaled down with increased yearly production in a uniform manner for all producers

Why I sell Cities Service Products

"BECAUSE Cities Service treats me squarely—and realizes I'm doing an important job...

"Cities Service Oil Company is a Nation-wide organization—but it's not so big that it fails to recognize the importance of my job as its representative in my community. I can work with confidence, secure in the knowledge that Cities Service is backing me not only with a complete line of fine petroleum products, but with sales devices and exclusive services that are bound to bring customers into my station and to help me keep them."

Popular Cities Service Products and Services:

KOOLMOTOR MOTOR OIL — CISCO PEP
TROJAN GREASES — RIDE PROVER SERVICE
CISCO SOLVENT — POWER PROVER SERVICE

TABLE II—SUMMARIZED RUBBER PROGRAM CAPACITIES, PRODUCTION AND INVESTMENT

Plant location	Operator	Rated capacity tons/year	Month of first production	Total production thru June, 1944 (tons)	Maximum month's production to date percent of rated	Estimated ultimate[2] actual capacity percent of rated	Estimated[2] investment cost	Source[3] of funds	Investment[4] per annual ton of rated capacity	Investment[4] per annual ton of estimated actual ultimate capacity	Remarks
I. BUNA-S											
A. Butadiene[1] (capacities and production in short tons)											
From alcohol											
Institute, W. Va.	Carbide & Carbon Chemicals Corp.	80,000	Feb. 1943	151,190	201	180	$39,308,036	G	$491	$273	
Louisville, Ky.	Carbide & Carbon Chemicals Corp.	60,000	Aug. 1943	74,800	181	180	35,731,028	G	595	330	Kobuta project consists of 80,000 T/yr. butadiene plant and 37,500 T/yr. styrene plant, costing $61,508,036. Cost of styrene plant is here arbitrarily set at $20,000,000 leaving $41,508,036 for butadiene.
Kobuta, Pa.	Koppers United Co.	80,000	July 1943	95,380	177	180	41,508,036	G	519	288	
Subtotal		220,000		321,370		180	116,547,100	G	530	294	
From butylene:											
Baton Rouge, La.	Standard Oil Co. of Louisiana	15,000	May 1943	20,600	156	150	8,600,000	G	573	382	Baton Rouge project includes pilot plant no longer in operation which is arbitrarily evaluated at $1,000,000. Total project estimated at $9,600,000.
Baytown, Tex.	Humble Oil & Refining Co.	30,000	Aug. 1943	22,210	0 12	135	19,400,000	G	647	480	Maximum month's production at Neches is for one of two units only.
Lake Charles, La.	Cities Service Refining Corp.	55,000	Aug. 1944			100	17,000,000	G	309	309	
Port Neches, Tex.	Neches Butane Products Co.	100,000	Feb. 1944	18,180	106	135	58,686,196	G	587	436	
Houston, Tex.	Sinclair Rubber, Inc.	50,000	Apr. 1944	3,580	63	135	31,500,000	G	630	467	
Subtotal		250,000		64,570		128	135,186,196	G	541	422	
From naphtha and gasoil:											
Baton Rouge, La.	Standard Oil Co. of Louisiana	6,800	Mar. 1943	6,820	[6] 117	100	2,000,000	G	294	294	Purification plant of sufficient size to handle crude butadiene produced at El Dorado in addition to own production.
Ingleside, Tex.	Humble Oil & Refining Co.	7,000	Oct. 1943	4,180	[6] 95	100	4,100,000	G	586	586	Purification plant of sufficient size to handle crude butadiene produced at Corpus Christi in addition to own production.
El Dorado, Ark.	Lion Oil Refining Co.	6,700	Oct. 1943	[5] 1,340	38	50	2,300,000	G	343	686	Crude butadiene production only.
Corpus Christi, Tex.	Taylor Refining Co.	5,500	Apr. 1944	[5] 70	11	25	1,800,000	G	327	1,310	
Subtotal		26,000		11,000		71	10,200,000		393	553	
Combination from naphtha and butylene:											
Los Angeles, Calif.	Southern California Gas Co.	30,000	July 1943	[5] 10,860	81	100	13,500,000	G	450	450	Crude butadiene production only.
Los Angeles, Calif.	Shell Chemical Division	25,000	May 1944	12,640	[6] 58	120	21,000,000	G	840	700	Purification plant of sufficient size to handle crude butadiene produced at Southern California Gas in addition to own production.
Subtotal		55,000		12,640		109	34,500,000	G	628	576	
From butane:											
Borger, Tex.	Phillips Petroleum Co.	45,000	Sept. 1943	14,040	61	100	35,000,000	G	778	778	
El Segundo, Calif.	Standard Oil Co. of California	15,000	Apr. 1944	{ 1,710 [4] 930	{ [7] 74	125	7,700,000	G	513	410	
Toledo, Ohio	Sun Oil Co.	15,000	June 1944	30	22	100	7,500,000	G	500	500	
Subtotal		75,000		15,780		105	50,200,000	G	670	638	
Total U. S. Government owned butadiene plants.		626,000		425,360		139	346,633,296	G	553	398	
Other plants:											
Baton Rouge, La.	Standard Oil Co. of Louisiana	6,600						P			Naphtha Cracking Process.
Charleston, W. Va.	Carbide & Carbon Chemicals Corp.	5,000						P			Thermal Cracking Process.
Philadelphia, Pa.	Publicker Commercial Alcohol Co.	10,000						P			Alcohol Process. Not in operation.
Bishop, Tex.	Celanese Corp. of America	10,000						P			Aldol Process. Not in operation.
Sarnia, Canada	Imperial Oil, Ltd.	30,000						C			Butylene Dehydrogenation Process.
Subtotal		61,600									
Grand total butadiene plants.		687,600									

[1] Private butadiene plants of Dow Chemical Co., Shell Chemical Division of Shell Union Oil Co., United Gas Improvement Co., Phillips Petroleum Co. and Standard Oil Co. of Louisiana in operation prior to the inception of the Government program not listed.

[2] After completion of scheduled additions. The estimates which in some cases may be conservative are felt to correspond to the production rate over an extended period without sacrifice in product quality or plant efficiency. In case of need plants may operate at higher rates for short periods.

[3] G—U. S. Government; P—Private; C—Canadian Government.

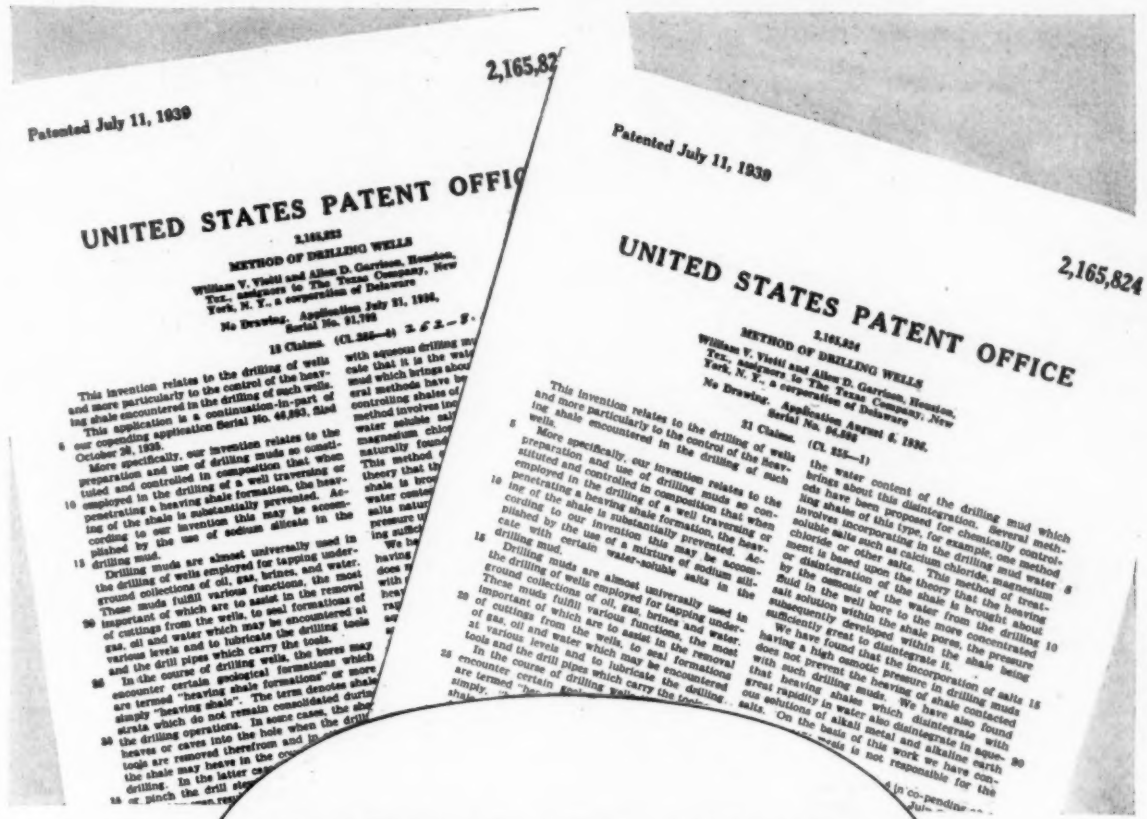
[4] Basis for these figures is not comparable in all cases due to sizeable utilities investments in some plants whereas other plants purchase utilities directly from outside suppliers.

[5] Crude butadiene produced for subsequent purification. These figures not included in totals.

[6] Does not include outside crude butadiene production purified in addition to own production.

[7] Applies only to specification butadiene produced; crude production purified elsewhere excluded.

(Table II continues on p. 52)


Patented July 11, 1939
UNITED STATES PATENT OFFIC
2,165,824
METHOD OF DRILLING WELLS
William V. Vietti and Allen D. Garrison, Houston, Tex., assignors to The Texas Company, New York, N. Y., a corporation of Delaware
No Drawing. Application August 6, 1936, Serial No. 94,586
21 Claims. (Cl. 255—1)
This invention relates to the drilling of wells and more particularly to the control of the heaving shale encountered in the drilling of such wells.
More specifically, our invention relates to the preparation and use of drilling muds so constituted and controlled in composition that when employed in the drilling of a well traversing or penetrating a heaving shale formation, the heaving of the shale is substantially prevented. According to our invention this may be accomplished by the use of sodium silicate in the drilling mud.
Drilling muds are almost universally used in the drilling of wells employed for tapping underground collections of oil, gas, brines, and water. These muds fulfill various functions, the most important of which are to assist in the removal of cuttings from the wells, to seal formations of gas, oil and water which may be encountered at various levels and to lubricate the drilling tools and the drill pipes which carry the tools. In the course of drilling wells, the bores may encounter certain geological formations which are termed "heaving shale formations" or more simply "heaving shale". The term denotes shale strata which do not remain consolidated during the drilling operations. In some cases, the shale heaves or caves into the hole when the drilling tools are removed therefrom and in other cases the shale may heave in the course of actual drilling.

NOW IT CAN BE DRILLED

ARCH enemy of the oil driller, heaving shale has blocked drilling progress in many important fields and wildcat areas.

It has forced the abandonment of countless operations, often with the loss of part of the drilling string.

Unstable in the presence of water, heaving shale swells and disintegrates, pushing into the well. Thanks to the Texaco method of heaving shale control, it is no longer an insuperable obstacle.

By employing the sodium silicate fluid developed by The Texas Company, the structure is consolidated thereby preventing this heaving action.

By this method, relatively deep wells have been completed by practically every major oil company in the Gulf Coast area. No other method has achieved this success. Licenses for the use of this development are available from Texaco Development Corporation or Philadelphia Quartz Company.

TEXACO DEVELOPMENT CORPORATION

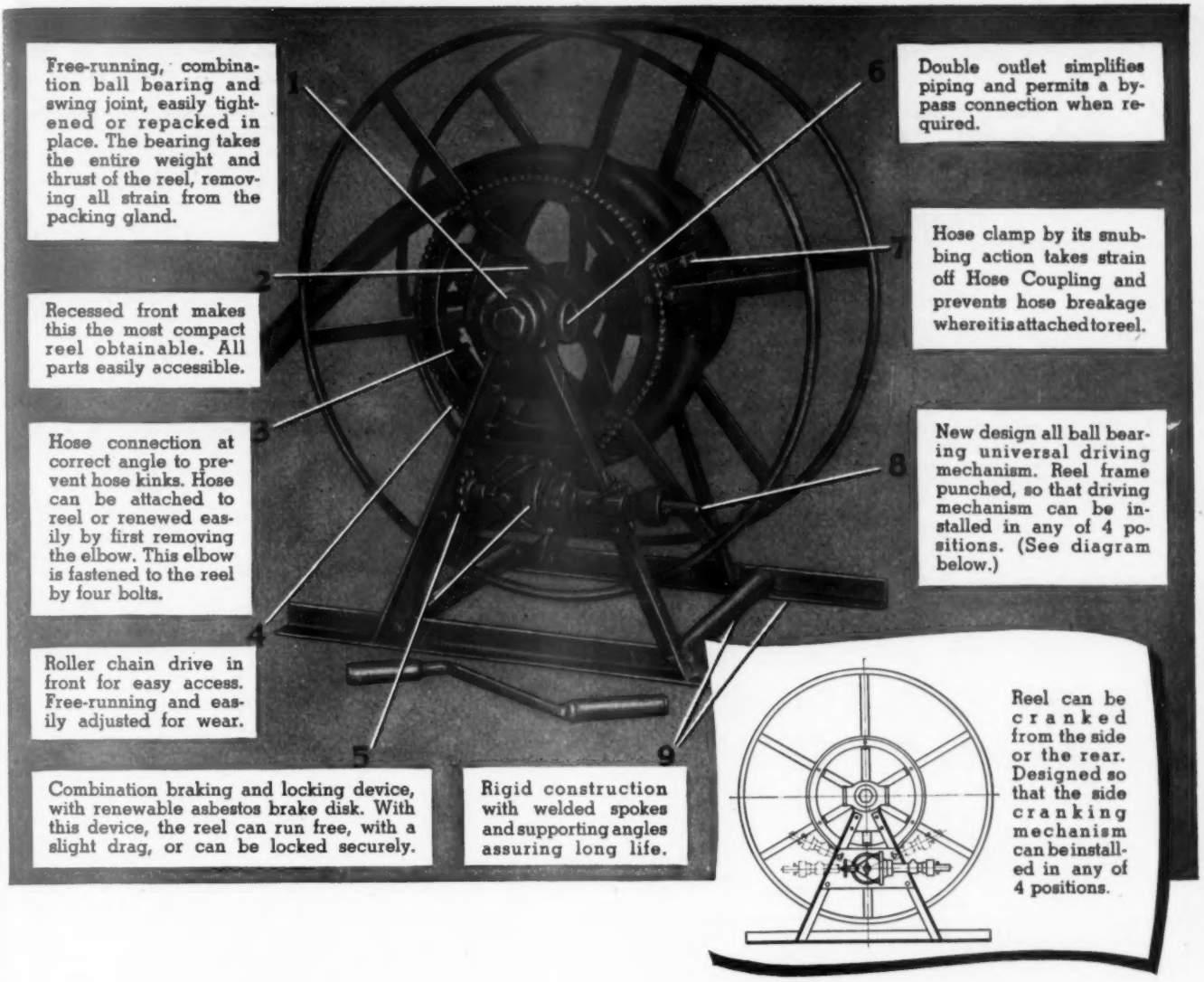
A Subsidiary of The Texas Company

26 Journal Square • Jersey City, N. J.

TABLE II—SUMMARIZED RUBBER PROGRAM CAPACITIES, PRODUCTION AND INVESTMENT—Continued

Plant location	Operator	Rated capacity tons/year	Month of first production	Total production thru June, 1944 (tons)	Maximum month's production to date percent of rated	Estimated ultimate[2] actual capacity percent of rated	Estimated[2] investment cost	Source[3] of funds	Investment[4] per annual ton of rated capacity	Investment[4] per annual ton of estimated actual ultimate capacity	Remarks
B. Styrene (Capacities and Production in short tons)											
Velasco, Tex.	Dow Chemical Co.	50,000	Sept. 1943	30,120	117	175	$18,150,000	G	$363	$207	
Los Angeles, Calif.	Dow Chemical Co.	25,000	June 1943	17,920	116	175	15,000,000	G	600	343	
Texas City, Tex.	Monsanto Chemical Co.	51,000	Mar. 1943	36,780	117	160	19,700,000	G	386	241	
Institute, W. Va.	Carbide & Carbon Chemicals Corp.	25,000	May 1943	16,020	111	100	9,900,000	G	396	396	
Kobuta, Pa.	Koppers United Co.	37,500	Aug. 1943	20,950	102	140	20,000,000	G	533	381	
Total U. S. Government owned styrene plants.		188,500		121,790		154	82,750,000		439	285	
Midland, Mich.	Dow Chemical Co.	4,200						P			4,200 tons per yr. is amount contracted for by Rubber Reserve Co. Actual rated plant capacity is 10,000 tons per yr.
Sarnia, Canada	Dow Chemical Co. of Canada, Ltd.	10,000						C			
Subtotal		14,200									
Grand total styrene plants.		202,700									
C. Copolymer (Capacities and production in long tons)											
Baton Rouge, La.	Copolymer Corp.	30,000	Apr. 1943	39,270	142	130	$7,536,853	G	$251	$193	
Borger, Tex.	B. F. Goodrich Co.	45,000	Aug. 1943	23,120	101	130	8,980,272	G	199	153	
Louisville, Ky.	B. F. Goodrich Co.	60,000	Nov. 1942	63,210	121	130	11,742,788	G	196	151	
Port Neches, Tex.	B. F. Goodrich Co.	60,000	Aug. 1943	25,000	114	130	16,584,896	G	276	212	
Akron, Ohio	Firestone Tire & Rubber Co.	30,000	June 1942	45,370	142	130	6,639,247	G	221	170	
Lake Charles, La.	Firestone Tire & Rubber Co.	60,000	Sept. 1943	23,060	97	130	14,132,698	G	236	182	
Port Neches, Tex.	Firestone Tire & Rubber Co.	60,000	Nov. 1943	20,860	111	130	16,584,896	G	276	212	
Baytown, Tex.	General Tire & Rubber Co.	30,000	July 1943	27,470	149	130	7,986,848	G	266	205	
Akron, Ohio	Goodyear Synthetic Rubber Corp.	30,000	May 1942	35,620	143	130	7,666,247	G	256	197	
Houston, Tex.	Goodyear Synthetic Rubber Corp.	60,000	Oct. 1943	17,910	101	130	13,373,698	G	223	172	
Los Angeles, Calif.	Goodyear Synthetic Rubber Corp.	60,000	June 1943	22,630	77	130	10,773,701	G	180	139	
Louisville, Ky.	National Synthetic Rubber Corp.	30,000	Oct. 1943	22,850	125	130	7,386,853	G	246	189	
Institute, W. Va.	United States Rubber Co.	90,000	Apr. 1943	94,170	136	130	18,560,550	G	206	158	
Naugatuck, Conn.	United States Rubber Co.	30,000	Sept. 1942	25,220	93	100	8,566,247	G	286	286	
Los Angeles, Calif.	United States Rubber Co.	30,000	Oct. 1943	11,590	113	130	5,386,850	G	180	139	
Total U. S. Government owned copolymer plants.		705,000		497,330		129	161,902,644	G	230	178	
Sarnia, Canada	Canadian Synthetic Rubber, Ltd.	30,000						C			
Grand total copolymer plants.		735,000									
D. Miscellaneous, catalyst, chemical and other Buna-S facilities.							12,512,609	G			
Grand total U. S. Government owned Buna-S.		705,000		497,330		129	603,798,549	G	857	663	
II. NEOPRENE-GN (Capacities and production in long tons)											
Louisville, Ky.	E. I. duPont deNemours & Co.	54,000	Oct. 1942	50,120	126	111	43,000,000	G	796	717	Maximum month's production based on unexpanded capacity of 40,000 long tons per year.
Deepwater, N. J.	E. I. duPont deNemours & Co.	9,000						P			
Grand total neoprene.		63,000									
III. BUTYL (Capacities and production in long tons)											
Baton Rouge, La.	Standard Oil Co. of Louisiana	38,000	Mar. 1943	7,950	41	100	27,000,000	G	710	710	
Baytown, Tex.	Humble Oil & Refining Co.	30,000	Sept. 1944 (Est.)			100	26,000,000	G	867	867	
Total U. S. Government owned butyl.		68,000		7,950		100	53,000,000	G	779	779	
Sarnia, Canada	Imperial Oil, Ltd.	7,000						C			
Grand total butyl		75,000									
IV. ALL U. S. GOVERNMENT OWNED SYNTHETIC RUBBER PLANTS (capacities and production in long tons).		827,000		555,400		125	699,798,549	G	845	675	

For footnotes 2, 3 and 4, See page 50.


1
Free-running, combination ball bearing and swing joint, easily tightened or repacked in place. The bearing takes the entire weight and thrust of the reel, removing all strain from the packing gland.
2
Recessed front makes this the most compact reel obtainable. All parts easily accessible.
3
Hose connection at correct angle to prevent hose kinks. Hose can be attached to reel or renewed easily by first removing the elbow. This elbow is fastened to the reel by four bolts.
4
Roller chain drive in front for easy access. Free-running and easily adjusted for wear.
5
Combination braking and locking device, with renewable asbestos brake disk. With this device, the reel can run free, with a slight drag, or can be locked securely.
9
Rigid construction with welded spokes and supporting angles assuring long life.
6
Double outlet simplifies piping and permits a by-pass connection when required.
7
Hose clamp by its snubbing action takes strain off Hose Coupling and prevents hose breakage where it is attached to reel.
8
New design all ball bearing universal driving mechanism. Reel frame punched, so that driving mechanism can be installed in any of 4 positions. (See diagram below.)
Reel can be cranked from the side or the rear. Designed so that the side cranking mechanism can be installed in any of 4 positions.

The New Hose Reel You Have Been Looking For

COMPACT, RUGGED, LIGHT IN WEIGHT, BALL BEARING CONSTRUCTION THROUGHOUT

The new Philadelphia Valve Co. reel is the finest reel built. It is compact, rugged, and light in weight. All parts are of steel, malleable iron, or bronze; no cast iron is used. It is ball bearing throughout with hardened and ground races. (6 ball bearings are used.) It will never wear out.

The reel can be changed from top winding to bottom winding by reversing the hose connection and rotating the drum. All working parts and hose connections are in front and easily accessible. It is light in weight, a reel that holds 100 feet of 1½" hose, only weighs 93 pounds.

We can furnish hose reels in any size or shape. They can be furnished for installation either in bucket box at rear of truck or in underslung box on side of truck. Give inside dimensions of box when writing for information. Special reels can also be furnished for Airfield Refueling Pits and Ship Docks.

Delivery can generally be made in a few days after receipt of order. For sizes, prices, and dimensions, write for Catalogue No. 165.

PHILADELPHIA VALVE COMPANY
ARAMINGO AVENUE AND ONTARIO STREET, PHILADELPHIA 34, PA.

Pacific Coast Distributor: 'Oil Marketing Equipment Co., 325 Fremont St., San Francisco, Cal.

FIG. 3

ESTIMATED DIRECT PRODUCTION COSTS

STYRENE

FOR TYPICAL PRICES OF

BENZENE & ETHYLENE

PRESENT & POSTWAR

(costs exclude amortization)

EXAMPLE

To find the estimated direct cost of styrene when the ethylene price is 6 cents per pound and the benzene price is 15 cents per gallon:
1. Place a straight edge at 6 cents on the ethylene scale and 15 cents on the benzene scale.
2. At the intersection of this edge with the styrene cost axis read the cost of 6.5 cents per pound.

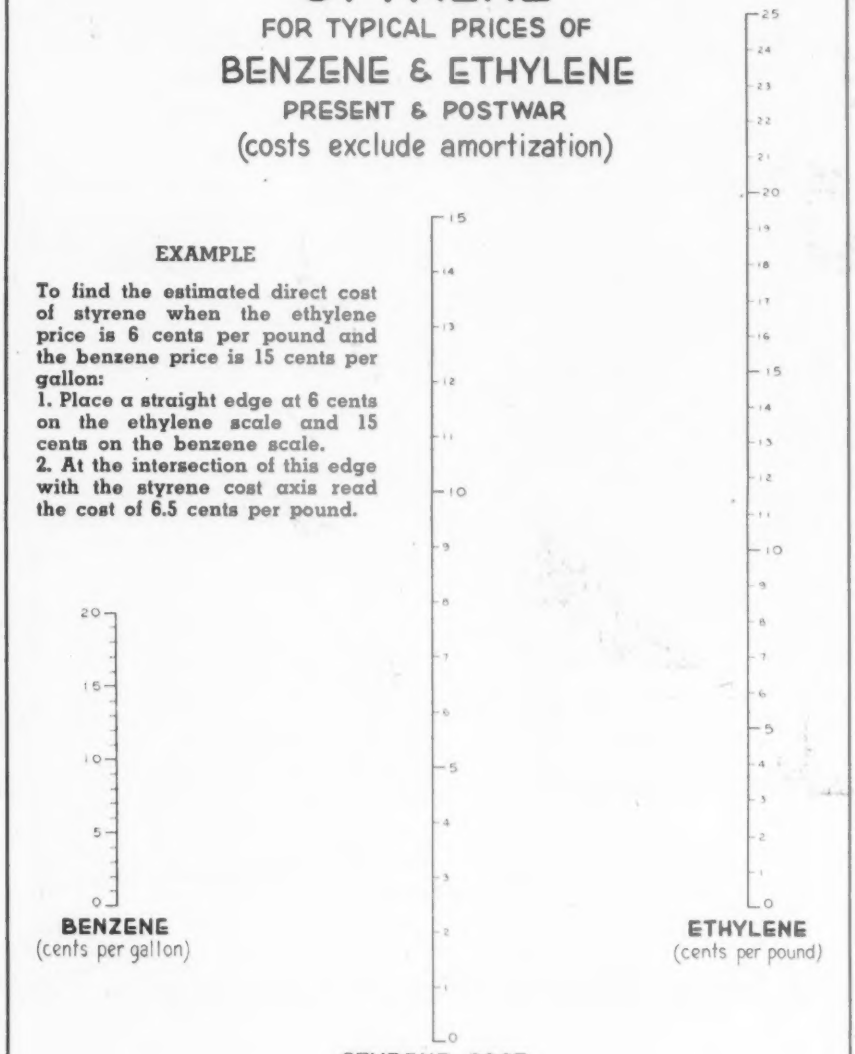


TABLE VI

	Case I	Case II	Case III
Butadiene:			
Production Cost	Butylene @ 6c gal. Utilization @ 0.65 In Texas 6.6c/lb.	Alcohol—15c/gal. In W. Virginia 8.8c/lb.	Butylene—6c/gal. Utilization—0.65 In Texas 6.6c/lb.
Shipping Cost	0	0	Tex. to Akron 0.80/lb
Total CIF Copolymer Plant.	In Texas 6.6c/lb.	In W. Virginia 8.8c/lb.	In Akron 7.4c/lb.
Styrene:			
Production Cost	Ethylene @ 3c/lb. Benzene @ 10c/gal. In Texas 4.8c/lb.		Ethylene—3c/lb. Benzene—10c/gal. In Texas 4.8c/lb.
Shipping Cost	Styrene Plant—Texas to Copolymer Plant—Texas 0.15c/lb		Texas to Akron 0.95c/lb.
Total CIF Copolymer Plant.	In Texas 4.95c/lb.	In W. Virginia 5.75c/lb.	In Akron 5.75c/lb.
Buna-S:			
Production Cost	Butadiene @ 6.6c/lb. Styrene @ 4.95c/lb. In Texas 10.3c/lb.	Butadiene @ 8.8c/lb. Styrene—5.75c/lb. In W. Virginia 12.1c/lb.	Butadiene—7.40c/lb. Styrene—5.75c/lb. In Akron 11.1c/lb.
Shipping Cost	Texas to Akron 0.75c/lb.	W. Virginia to Akron 0.33c/lb.	0
Total CIF Akron	11.05c/lb.	12.43c/lb.	11.1c/lb.

RUBBER REPORT

(Continued from page 48)

to the rubber consuming centers of the country.

STYRENE

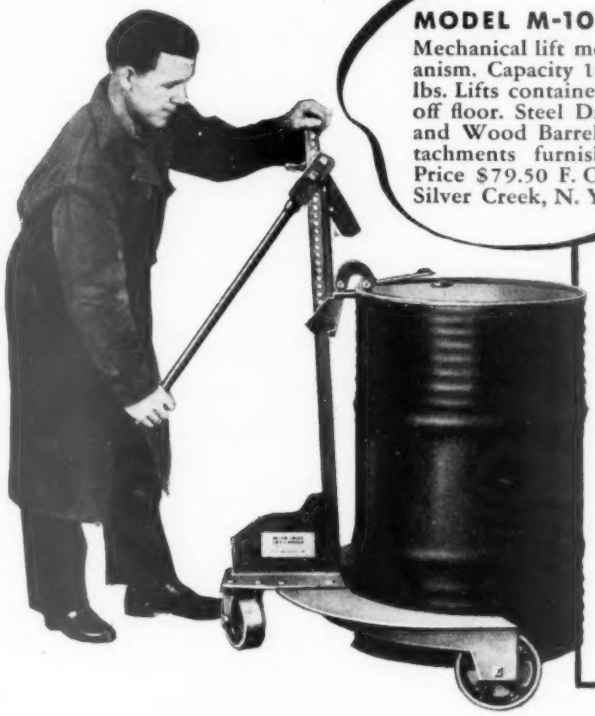
The styrene program as established was built largely around the Dow Chemical Co. process which had been in successful commercial operation for several years. In addition, the Carbide and Carbon Chemicals Corp. used their own process and two plants employed modified Dow systems. On the basis of present experience, it appears that the Dow process will be the low cost producer. These plants have operated very successfully and demonstrated their ability to give considerable over-capacity. Based on the operation of the Dow type plants over the past several months, the styrene costs, exclusive of feed stocks, are listed in Table V. Based on present yields, a nomograph for the cost of styrene is given in Figure 3 as a function of benzene and ethylene prices. At present ethylene is charged to the low cost styrene plants at 6c per pound and benzene at about 16c per gallon, resulting in a styrene cost of approximately 6.6c per pound. Certain other plants obtain their ethylene by the dehydration of alcohol. This results in an ethylene cost of approximately 30c per pound which with 16c per gallon benzene produces styrene costing 14c per pound. In the postwar picture it has been estimated that ethylene will be available at 2c to 3c per pound and benzene at 8c to 12c per gallon. Based on these prices it should be possible to produce styrene for an out-of-pocket cost of 4c to 5c per pound.

COPOLYMER

With the exception of a few plants which were already engineered and under construction before the expanded Government program was undertaken, the copolymer plants for the production of Buna-S from butadiene and styrene are primarily of a standard design. In order to provide as nearly a uniform product as possible during the period when the conversion of manufacturing facilities from natural rubber to Buna S (GR-S) was taking place, every effort was made to run these plants by a standard operating procedure. As a result, the operating costs for the plants once they have attained a full scale operation are quite uniform. A breakdown of these basic operating costs is presented in Table V, together with an estimate of their probable postwar levels. These costs exclude the cost of the principal monomers, butadiene and styrene. It will be noted that the postwar estimate is approximately 0.4c per pound less than the present average. This is largely because of a reduction in the cost of chemicals other than monomers which enter into the polymerization formula. The remainder represents estimated possible savings in operating labor i. e., changes in the packaging end of the plants, and other minor cost reductions. The cost of the Buna S as a function of the butadiene and styrene cost is presented as a nomograph in Figure 4. From the nomograph it can be seen that Buna S can now be produced for an out-of-pocket cost of about 12.2c per pound with styrene and butadiene at 7c and 8c per pound respectively. (These are the approximate out-of-pocket charges for the present low cost monomer producers). If the butadiene is made from alcohol at present prices, the out-of-pocket cost for Buna-S is approximately 37c per pound. On a postwar basis it has been indicated above that it should be possible to produce butadiene and styrene at out-of-pocket costs of not over 7c and 5c per pound, respectively. These prices should make it possible to produce Buna S at an out-of-pocket cost of 10.7c per pound. Even if the butadiene cost were 9c per pound, as might be realized by the alcohol process, the direct cost of Buna-S would be only 12.1c per pound. In all of the above costs, nominal management fees and royalties as listed only are included. The additional selling expenses, provisions for profit, interest charges on the use of private operating capital, increased royalties and market risks may well increase the cost of both the monomers and the Buna S itself by several cents a pound, probably not less than 2c per pound nor more than 4c per pound. However, no at-

SILVER CREEK LIFT-CARRIER

Handles Sealed or Open Containers Easily



MODEL M-1000
Mechanical lift mechanism. Capacity 1000 lbs. Lifts container 3" off floor. Steel Drum and Wood Barrel attachments furnished. Price $79.50 F. O. B. Silver Creek, N. Y.

OPEN DRUMS CAN BE LIFTED, MOVED OR LOADED FOR SHIPMENT WITHOUT SPILLING CONTENTS . . . WITHOUT DANGER OR INJURY TO OPERATOR, CONTAINERS OR FLOORS!

LIFTS VERTICALLY...CARRIES UPRIGHT

● Simplicity, safety and extreme ease of operation are prime features of the Silver Creek Lift Carrier. This unit will raise a capacity load with ease. Bearing equipped wheels and casters make it easy to move the loaded carrier over almost any hard floor or platform surface. Injuries from strain and accidents common to workers handling loaded drums and barrels can be avoided.

S C Lift Carriers are preferred by many leading plants because of their superior design, construction and performance. They quickly pay for themselves in labor savings and increased production.

Since S C Lift Carriers lift vertically, open drums and barrels can be handled without contents being spilled. This handling method minimizes wear and damage to containers caused by dumping and falling when rolling drums get out of control. Both Models are available for immediate shipment on orders carrying AA5 rating or better. Write for descriptive literature.

MODEL H-1500
Hydraulic Lift Unit. Capacity, 1500 lbs. Lifts container 16" off floor. Steel Drum and Wood Barrel attachments furnished. Price $195.00 F. O. B. Silver Creek, N. Y.

SILVER CREEK PRECISION CORP.

415 LEXINGTON AVE., NEW YORK 17, N. Y. PLANT: SILVER CREEK, N. Y.

Awarded the Army-Navy "E" for excellence in war production. Now building precision parts for 30 cal. Carbine and Springfield Rifles; 30 and 50 cal. Browning Machine Guns; 20 mm Oerlikon Anti-Aircraft Guns; Curtiss P-40 and P-46 Aircraft; Aircraft generators and Sterling Admiralty Engines.

tempt was made to include these in the above studies.

INFLUENCE OF SHIPPING COSTS

Of general interest are a few calculations on the over-all operation from the raw materials at their source to finished rubber laid down in Akron. In Table V are presented estimates of the postwar cost for three cases. The first involves making the styrene, butadiene and Buna S in Texas and shipping the finished rubber to Akron; the second involves starting with 5¾c styrene at Institute, West Virginia, making the butadiene from alcohol and the Buna S at Institute and shipping the finished rubber to Akron. The third involves the manufacture of the styrene and butadiene in Texas and shipment of them to Akron for polymerization. It is to be seen that the present tariff rates are such that Cases I and III give nearly the same cost for Buna S in Akron and that because of lower cost butadiene both are about 1.3c per pound cheaper than Case II. However, all of the costs fall within a very narrow range and factors at present unknown can well upset any one of the alternatives in favor of the others.

E. R. GILLILAND,
H. M. LAVENDER, Jr.

August 31, 1944.

Jones Submits Costs, Sales Figures on Rubber

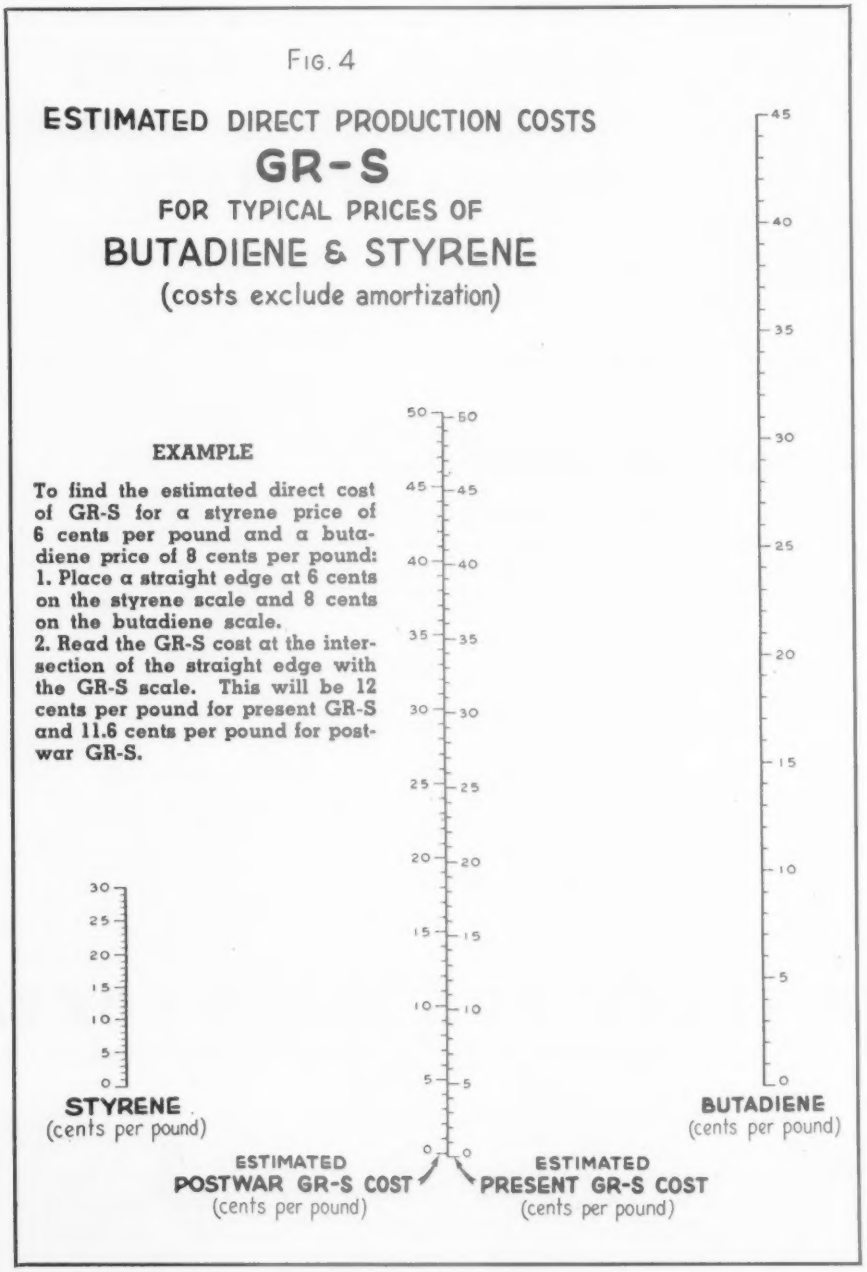
NPN News Bureau

WASHINGTON—At the request of Col. Bradley Dewey, Secretary of Commerce Jones has furnished information on the estimated costs and sales realization of natural and synthetic rubber as of June 30, 1944. Figures submitted by Mr. Jones, and made a part of Col. Dewey's final report as rubber director, follow:

	Production & Purchases		Sales		Sales Realization*
	Quantity	c/lb.	Quantity	c/lb.	c/lb.
GR-S (Buna S)	497,312	35.2	471,965	22.0	26.2
GR-M (Neoprene)	50,119	26.7	47,890	32.2	39.9
GR-I (Butyl)	8,360	35.6	3,974	15.7	18.9
GR-P (Thiokol)	751	42.0	51	21.9	21.9
Total Synthetic (long tons)	556,542	34.4	523,880	22.9	27.4
Natural rubber (long tons) (exclusive of purchase and sales from Central and South America)	828,561	21.4	745,638	22.0	24.9
Natural rubber (long tons) (including purchases and sales from Central and South America)	882,218	25.6	789,020	21.9	25.1

* The War and Navy Departments, the Maritime Commission, and the Treasury Procurement pay Rubber Reserve Company 17½c per pound on the synthetic rubber and natural rubber reported to have been used in articles manufactured for war orders.

FIG. 4


ESTIMATED DIRECT PRODUCTION COSTS
GR-S
FOR TYPICAL PRICES OF
BUTADIENE & STYRENE
(costs exclude amortization)
EXAMPLE
To find the estimated direct cost of GR-S for a styrene price of 6 cents per pound and a butadiene price of 8 cents per pound:
1. Place a straight edge at 6 cents on the styrene scale and 8 cents on the butadiene scale.
2. Read the GR-S cost at the intersection of the straight edge with the GR-S scale. This will be 12 cents per pound for present GR-S and 11.6 cents per pound for postwar GR-S.
STYRENE
(cents per pound)
BUTADIENE
(cents per pound)
ESTIMATED
POSTWAR GR-S COST
(cents per pound)
ESTIMATED
PRESENT GR-S COST
(cents per pound)

Safety Group Outlines Industry's Part In Fire Prevention

NPN News Bureau

NEW YORK—Safety Research Institute here urges industrial and business management to prepare for special activity during Fire Prevention Week, to be observed Oct. 8-14.

Among the suggestions offered by that institute is the holding of a fire extinguisher drill in which employes attend a demonstration describing the operations of various types of extinguishers on the premises. At these meetings the use of extinguishers to combat various classes of fire would be explained.

When possible, during such a demonstration, arrangements should be made to permit workers to operate the extinguishers themselves, under supervision, so that they may better understand them. The demonstrator can also supervise the recharging of extinguishers even though it is desirable that recharging and inspection of extinguishers be the responsibility of one or more men who have been specially trained in such work.

Pointing out that the use of actual test fires adds to the interest of a demonstration, the Safety Institute declares that in many places this is impracticable and not essential. They warn that if actual fires are to be set, the permission, and if possible cooperation, should be obtained from local fire departments.

The Safety Research Institute has described the entire procedure for such demonstrations. For the benefit of companies not familiar with the procedure the following is recommended by this safety institution:

Preparation

1. Secure demonstrator and crew of helpers who are thoroughly familiar with fire extinguishing methods; assign specific duties to each helper; have them rehearse sufficiently to handle the demonstration

in a professional, time-conserving and interest-maintaining manner;

2. Arrange for scene of demonstration in an open space where there is no danger of fire spreading to buildings or causing grass or brush fires; consider prevailing winds when determining location of fires in relation to spectators;

3. Have all materials needed for starting test fires on hand, laid out in orderly sequence for use, but segregated so that fires cannot spread to them;

4. Have extra fire extinguishers of ail types available, and also larger equipment ready, in case of emergency.

The Demonstration

1. Give a brief talk on the nature of fire, explaining the elements necessary to have a fire, the three classes of fire, and methods of cooling or smothering to extinguish fire.

2. Set Up Test Fires

(a) Class A fires—Build a small fire with paper and kindling wood. When it is burning freely, direct the contents ot soda-acid extinguisher or pump tank on the fire to demonstrate the cooling effect of water.

(b) Class B fires—

(1) Spill some gasoline along the ground and ignite. Then demonstrate use of foam, vaporizing liquid, or carbon dioxide type of extinguishers in putting out the fire by smothering.

(2) Place some gasoline in a pail or tub and ignite. Show how foam or vaporizing liquid should be played against the inside of the container, just above the level of the liquid. Show what happens when stream is directed into the burning gasoline. Show what happens when water is used on burning gasoline.

The same container can be used for each fire if a little more gasoline is added after the fire has been extinguished.

(c) Class C fires—Have electric light on long extension cord with insulation badly worn. Let bare wires come together and set fire to the insulation and some paper. Use vaporizing liquid or carbon dioxide extinguisher to put out the fire.

(d) Some special hazard peculiar to your own plant.

3. In each case, explain how extinguishers work, how to pick them up, how to carry and hold them, and how to operate them on each class of fire for which they are suitable.

4. Let as many of the audience as possible put out test fires.

5. Emphasize the importance of using the correct type of extinguisher on each class of fire; for example, explain why one should not use soda-acid extinguisher on flammable liquid or electrical fires.

After The Demonstration

1. Explain re-charging of extinguishers and the necessity of regular inspection to keep equipment in good order and ready for immediate use.

2. Encourage questions from all present and be prepared to give clear-cut answers.

3. Remove or burn all excess materials. If you burn them, have equipment handy to control the fire, if necessary.

★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★

ALWAYS READY FOR TOUGH WORK...

KELLOGG-CROWN "25"

Here's a spray gun that feels right—and *is* right; and it's built to take it. Easily-accessible, easily-operated precision controls—non-tiring, free swinging balance. For better, more profitable finishing, look into the Kellogg-Crown line of paint spray equipment. For *the most air per dollar,* your choice will swing to a Kellogg-American air compressor—built for hard work, long life, low operating cost.

Kellogg-American

REG. U. S. PAT. OFF.

AMERICAN Brake Shoe COMPANY

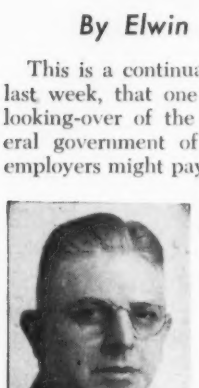
Kellogg Division, Rochester 9, New York

AIR COMPRESSORS · PAINT SPRAY EQUIPMENT · CAR LIFTS · CAR WASHERS

Explaining Circumstances Under Which Employers Can Adjust Wages Without Obtaining Approval

By Elwin E. Hadlick

This is a continuation of the article of last week, that one being a preliminary looking-over of the control by the Federal government of the amounts which employers might pay in the way of wages and salaries. The regulations of the Economic Stabilization Director were being considered.



Mr. Hadlick

In the first article we outlined the rule that the wage and salary stabilization program does not apply to employers of eight or less persons. There is one very important exception to that rule which is really more of an income tax law matter than one of wage and salary stabilization. It is provided that the Commissioner of Internal Revenue has the right to disallow any payment made by any employer to any employe which is in excess of a "reasonable allowance" as those words are defined in Section 23 (a) of the Internal Revenue Code; he has this right regardless of the number of employes which an employer has and regardless of the amount paid to any particular employe.

It might be thought that everyone understands what is meant by wages and salaries; it is necessary to know what those terms mean when used in these regulations. "Wages" are defined to mean all forms of direct or indirect compensation computed on an hourly or daily basis, a piece-work basis, or other comparable basis, for personal services of an employe irrespective of when rendered, including bonuses, additional compensation, gifts, commissions, loans, fees, and any other remuneration in any form or medium whatsoever, but excluding insurance and pension benefits in a reasonable amount. The definition of "salaries" is identical, except as to the method of computation; salaries take in things that are computed on a weekly, monthly, annual or other comparable basis, other than a wage basis. No further detail is possible here as to the application of these definitions; it might be pointed out that a recent decision held that an option to purchase stock granted to employes required approval because it is in effect a salary payment.

As pointed out in the previous article, comments here are made as relating to the petroleum industry; therefore, they should not be taken as necessarily applying to any other line of industry. Because of the limitation, there will be no analysis of exemptions for agricultural labor, etc.

There is a series of conditions under which increases may be made without approval. These in effect amount to exemptions from the rules. These conditions as expressed in the regulation are greatly amplified in rulings of the departments which handle these matters; it is, therefore, not safe to conclude that an exemption applies only after considering the conditions set forth in the regulation. The explanation and modification of those exemptions or conditions cannot be covered in detail in these articles; they are, therefore, mentioned here in connection with this analysis of the regulations and as briefly set out by the Economic Stabilization Director.

There are six conditions or circumstances under which an employer may make adjustments without approval. In each of these six cases there is no author-

Herewith NPN presents another article by Elwin E. Hadlick, prominent Minneapolis attorney and oil marketing association executive, the 26th in his series on war-oil regulation compliance. In this week's contribution Mr. Hadlick continues discussion of wage and salary stabilization regulations begun last week.

ity to go hog-wild, but a very limited authority. An employer is authorized to make a reasonable increase in the rate at which the salary is computed, if the change is made in accordance with the terms of a salary plan or salary rate schedule in existence at the time of wage and salary freezing. Note that the authority is to make a reasonable increase in the rate at which the salary is computed; this does not include the authority to increase the rate at which bonuses and additional compensation are computed.

Given a situation where an employer had a salary plan or salary rate schedule in existence at the time of wage and salary freezing, then that employer may make reasonable increases in the rates of salaries paid in any one of six situations. Those six situations are: (1) in the case of individual promotions or reclassifications; (2) in the case of individual merit increases within established salary rate ranges; (3) in operating under an established plan of salary increases based on length of service within established rate ranges; (4) for increased productivity under incentive plans; (5) as a result of the operation of a trainee system; and (6) under such other circumstances as may be prescribed in orders, rulings or regulations of the proper administrative authorities.

There are many businesses which might want to operate by giving reasonable increases where one of the six situations outlined would apply. However, the first condition above mentioned must be met, namely, that the employer had a salary plan or salary rate schedule in existence at the time of wage and salary freezing. Many employers had no such plan, and are, therefore, not eligible. Without getting into too much detail it might be mentioned here that the National War Labor Board has, for wages and salaries under its jurisdiction, set up an approved general plan. Any employer who has or secures approval for a rate range is permitted to operate under the Board's recommended plan. Any employer who has a situation of this nature or who is thinking of setting up a rate range is referred to General Order 31.

Questions are bound to arise concerning raises or increases which are required by some other law. It sometimes happens that other laws specify that employers shall do something in the matter of wages which would be in violation of the wage and salary stabilization law if done without approval. Congress has specifically taken care of such situations by providing that nothing in wage and salary stabilization shall be deemed to conflict with requirements under wages and hours law or the national labor relations act; anything an employer does in order to comply with wages and hours law or with national labor relations act is correct, even though it might appear from the terms of wage and salary stabilization that approval was needed.

Having briefly covered the fact of wage and salary control, and an analysis of the general application of the freezing orders, it is next in order that the effective date of freezing be understood. Without going into a discussion of various orders and dates thereof, the freezing dates were: October 3, 1942, in the case of a rate of more than $5000 per year, and Oct. 27, 1942, in the case of a rate of $5000 or less per year. In other words, any change in rates made in a salary of over $5000 per year prior to Oct. 3, 1942, was properly made without approval; likewise any change in rates made in a salary of less than $5000 per year prior to Oct. 27, 1942, was properly made without approval.

Congress first said that the level of Sept. 15, 1942, should be maintained. In amending the law Congress provided that nothing should be done under the wage stabilization law which would re-

duce wages or salaries for any particular work below the highest wages or salaries paid between Jan. 1, 1942, and Sept. 15, 1942. This was the method adopted by Congress to overrule the President in his effort to prevent payment of salaries in excess of $25,000. It had other effects. Because of that amendment by Congress the dates referred to in the preceding paragraph amount to effective dates beginning with which advance approval was needed for making increases. The result is to freeze at the highest wage or salary paid during the period Jan. 1, 1942, and Sept. 15, 1942.

Applying for an increase in a wage or salary rate is not just a matter of collecting evidence with which to over-awe a government employe; neither is it a case of having a friend in public office who will be particularly lenient with an application. The regulations of the Economic Stabilization Director very specifically set up a very limited number of conditions and circumstances under which the administrative agencies can grant applications. Those limitations are of prime importance. We will speak of them as of today, without going back into the variations over the full period of wage and salary control.

The agencies are first authorized to grant increases where they are clearly necessary to correct substandards of living. Space doesn't permit an exposition of what is meant by substandards of living; the regulations and decisions contain a lot of material, but in the nature of the question the controlling factor is the circumstances surrounding the particular case.

The Little Steel Formula

The next situation in which the agencies may grant increases has been previously mentioned; it is in connection with adjustments made to compensate in accordance with the Little Steel Formula. The Little Steel Formula is 15% over the rate on Jan. 1, 1941; reasoning behind the formula is that that amount was necessary to correct for rise in the cost of living between Jan. 1, 1941, and May 1, 1942. Every application which involves an increase of which all or a part is covered by the 15% formula should include reliance on the Little Steel Formula; it isn't every request that will be granted on that basis, but it should be included in the application.

The agencies may make adjustments up to the minimum of the tested and going rates paid for the same work in the same or most nearly comparable plants or establishments in the same labor market. There is an exception to that rule in critical war need areas but it will be passed over. This is a very involved subject, one about which there has been much conversation and debate. The material in connection with tested and going rates is almost limitless. This basis represents one which is usually available to all applicants; therefore, it is important even though involved.

Agencies are permitted to make adjustments in cases of promotions, reclassifications, merit increases, incentive wages or the like. There is a restriction on the National War Labor Board in making such adjustments and for all practical purposes on the Treasury Department in making any adjustments, that they must not be such as to increase the level of production costs appreciably or to furnish the basis either to increase prices or to resist otherwise justifiable reduction in prices.

There is one final paragraph of authority to make increases. It is involved, but in effect it authorizes increases in interrelated job classifications where none of the above reasons exists but where other job classification rates are raised under the above rules, where the failure to increase the interrelated job classifications would cause a reduction in productive efficiency.

Index of Week's War-Oil Orders

(Issued September 2-9, 1944)

PAW—Petroleum Administration for War

PAO 11, SO 7 as am. 8-26-44—Use of material in oil development drilling operations in Southwestern Michigan.

PDO 22, as am. 9-2-44—Minimum viscosities for District 5 fuel oil modified.

OPA—Office of Price Administration

MPR 136, Am. 124—Machines and parts prices.

RMPR 436—

Order 16—Hewitt Pool, Carter County, Oklahoma crude ceiling.

Order 17—Revision of crude ceiling for certain pools in Okla., Ind., Ill., Kans., and Mich.

Order 18—Crude ceiling revisions for pools in Ind., Kans., La., Okla., Wyo., and Calif.

Order 19—Caddo Pool, La. crude ceiling revised.

Order 21—Irma Pool, Nevada County, Ark. crude ceiling.

Order 22—Crude ceiling on 4 Okla. pools.

MPR 453, Am. 4—Automotive parts ceilings.

MPR 528, Order 14—Standard Oil Atlas tube ceilings.

RO 1A, Am. 84—Issuance of certificates for truck and tractor-implement tires.

Am. 85—Miscellaneous amendments to tire rationing regulations.

RO 5C, Am. 147—Rations for use in political campaigns and elections.

RO 9A, Am. 14—Emergency oil shortage area redefined in stove-rationing order.

Rev. RO 11, Am. 25—Dealers must notify consumers of gallonage, value of undetached valid coupons on deposit.

Gen. RO 7, Am. 11—Name of person surrendering and type of ration stamps enclosed no longer required on face of envelope.

Rev. Proc. Reg. 1, Am. 9—Issuance, adjustment, amendment, protest, and interpretation of price regulations.

Proc. Reg. 6, Am. 6—Adjustment of ceilings for commodities or services under Government contracts.

WPB—War Production Board

L-74, as am. 8-29-44—Manufacture of oil burners.

L-123, as am. 8-31-44—General industrial equipment.

L-143-a, as am. 9-5-44—Rubber processing machinery and equipment.

L-180, as am. 8-31-44—Materials for production of replacement storage batteries.

L-185, as am. 8-29-44—Water heater restrictions; metal jacket manufacture now unrestricted.

L-199, as am. 8-29-44—Plumbing and heating tanks.

L-270, as am. 8-31-44—Manufacture of automotive maintenance equipment.

R-1, Direction 1—War Production Board replaces Office of Rubber Director.

U-1-a, as am. 8-31-44—Limit on permitted gas extensions to government raised from $1,500 to $10,000 total cost.

U-1-d, as am. 8-31-44—$10,000 limit on extension of gas facilities for which specific WPB authorization has been issued.

U-1-f, as am. 8-31-44—Extensions to remodeled premises for which no specific WPB authorization has been issued.

U-1-h, Revocation—Producers' extension of gas facilities to certain consumer premises now governed by U-1-d.

U-7, as am. 8-29-44—Natural gas restrictions.

CMP 2, as am. 9-5-44—Inventories of controlled materials.

Pri. Reg. 11B, as am. 9-1-44—Preference ratings for manufacturers not obtaining production materials under CMP.

Pri. Reg. 13, Direction 1—Authorizations under Pri. Reg. 25.

Pri. Reg. 24, Am. 1—Specific WPB permission required before placing certain unrated purchase orders.

Certificate 25, Am. 1—Exchange of technical information between manufacturers of synthetic rubber and rubber-consuming products.

Release concerning Reconversion Program—All non-military production will be unrated after close of European War.

ICC—Interstate Commerce Commission

No. 3666, Notice of Proposed Revision of

CODE: AO—Administrative Order; CMP—Controlled Materials Plan; D—Directive; FDO—Food Distribution Order; GMPR—General Maximum Price Regulation; GO—General Order; Interp.—Interpretation; L—Limitation Order; M—Conservation Order; MPR—Maximum Price Regulation; P—Preference Rating Order; PAO—Petroleum Administrative Order; Pri. Reg.—Priorities Regulation; Proc. Reg.—Procedural Regulation; PS—Price Schedule; RO—Ration Order; RPS—Revised Price Schedule; SO—Supplementary Order; SR—Supplementary Regulation.

OIL-LAW-Gram Service

Complete texts of all orders or amendments digested in war-oil orders can be had from Platt's Oil-LAW-Gram, 1213 West 3rd street, Cleveland 13, Ohio. Minimum charge single copies $1. Copies of these texts are always in stock but large orders can be promptly filled by reprinting as plates and stencils are also kept.

Complete daily Oil-LAW-Gram service, with necessary binders, $100 per year in advance.

Due care and judgment have been taken in preparing and publishing these digests and in reproducing the original texts but the publisher does not warrant their absolute legal completeness nor accuracy. Important decisions by the reader should be made only after careful study of complete texts.

Explosives Transportation Rules—Current regulations compared with proposals of Bureau of Explosives and of B.R.T.

EO—Executive Orders

No. 9475—Transfer of functions and responsibilities of Office of Rubber Director.

WSA—War Shipping Administration

GO 8, Supp. 10, Am. 2—Basic rates dry cargo vessels revised.

WMC—War Manpower Commission

Reclassification of Labor Market Areas as of 9-1-44.

Digest of Week's War-Oil Orders

Petroleum Administration for War

USE OF MATERIAL IN OIL DEVELOPMENT DRILLING OPERATIONS IN SOUTHWESTERN MICHIGAN—PAO 11, SO 7 as am. 8-26-44—Increase of depth limit and relaxation of well-spacing rules reported on p. 40, 9-6 NPN.

MINIMUM VISCOSITIES FOR DISTRICT 5 FUEL OIL MODIFIED—PDO 22, as am. 9-2-44—See article p. 26, 9-6 NPN.

Office of Price Administration

MACHINES AND PARTS PRICES—MPR 136, Am. 124—Added to the list of parts which take 3-31-42 as their ceiling base date are valves, cocks and stops primarily made to purchaser's specifications when sold to parts resellers and to manufacturers of automotive parts. Issued 8-29, effective 9-4.

HEWITT POOL, CARTER COUNTY, OKLA. CRUDE CEILING—RMPR 436, Order 16—Increase set at 35c bbl. Issued 8-31, effective 8-1.

CRUDE CEILING REVISION FOR CERTAIN POOLS IN OKLA., IND., ILL., KANS., AND MICH.—RMPR 436, Order 17—35c increase set for 3 pools in Okla., 3 in Ind., and 1 each in Kansas and Michigan; 25c for 3 other Okla. pools and 1 Ill. pool. Issued 8-31, effective 8-1.

CRUDE CEILING REVISION FOR POOLS IN IND., KANS., LA., OKLA., WYO., AND CALIF.—RMPR 436, Order 18—See p. 50 article in 9-6 NPN. Issued 9-6, effective 8-1.

CADDO POOL, LA. CRUDE CEILING REVISED—RMPR 436, Order 19—35c increase granted Caddo (Pine Island) Pool crude. Issued 9-6, effective 8-1.

IRMA POOL, NEVADA COUNTY, ARK. CRUDE CEILING—RMPR 436, Order 21—20c increase set for Irma Pool. Issued 9-7, effective 8-1.

CRUDE CEILING ON 4 OKLA. POOLS—RMPR 436, Order 22—20c increase given to 4 Pontotoc County, Okla. Fitts pools. Issued 9-12, effective 9-1.

WHOLESALERS' AND RETAILERS' AUTOMOTIVE PARTS CEILINGS—MPR 453, Am. 4—New paragraph states that any commodity, including an automotive part, traded in in connection with a part covered by MPR 453 is a partial payment for the new part, and a reasonable allowance must be made for the traded-in part. Instead of the manufacturer's federal excise tax may be added 4% of the wholesale, or 3% of the retail price, as a "special handling charge authorized by OPA". Issued 9-5, effective 9-11.

STANDARD OIL ATLAS TUBE CEILINGS—MPR 528, Order 14—Ceilings set for ten of Standard's Atlas natural rubber (new) passenger car tubes, ranging from $1.86 for junior 4.75-19 tube, to $3.48 for 7.50-16 junior tube. Issued 9-5, effective 9-6.

ISSUANCE OF CERTIFICATES FOR TRUCK AND TRACTOR-IMPLEMENT TIRES—RO 1A, Am. 84—When neither tractor-implement nor Grade III tire can be used on a vehicle, a certificate for a used truck-type tire may be issued, including those issued because, though old tire is recappable, facilities are unavailable therefor. A District Director may issue truck tire certificates for size 8.25 or larger only when a decision must be reached before an Emergency Truck Tire Board can be convened. Issued 9-7, effective 9-11.

MISCELLANEOUS AMENDMENTS TO TIRE RATIONING REGULATIONS—RO 1A, Am. 85—Several sections referring to presentation of tire inspection record and declaration of tires revoked. Issued 9-11, effective 9-15.

RATIONS FOR USE IN POLITICAL CAMPAIGNS AND ELECTIONS—RO 5C, Am. 147—Special gasoline rations are available to a candidate for state or federal political office during his campaign, and one campaign manager for each candidate is entitled to special or supplemental rations, or both, up to a maximum of 400 miles per month in Area A, 475 in Area B, 325 in the shortage area. Issued 9-7, effective 9-11.

EMERGENCY OIL SHORTAGE AREA REDEFINED IN STOVE RATIONING ORDER—RO 9A, Am. 14—Though the entire continental U. S. is included in this area, the Director of the Fuel Rationing Division may exclude any area in the states outside the limitation area, or any area in the states of Ga., Fla., Ore., Wash., and Idaho. Issued 9-5, effective 9-9.

NAME OF PERSON SURRENDERING AND TYPE OF RATION STAMPS ENCLOSED NO LONGER REQUIRED ON FACE OF ENVELOPE—Gen. RO 7, Am. 11—Issued 8-29, effective 9-2.

DEALERS MUST NOTIFY FUEL OIL CONSUMERS OF GALLONAGE VALUE OF UNDETACHED VALID COUPONS ON DEPOSIT—Rev. RO 11, Am. 23—Dealers or primary suppliers having on deposit consumers' Class 4, 5, or 6 coupon sheets on 9-30-44, must advise consumer by mail, by 10-10-44, as to their gallonage value, and retain copy of notice for 2 years. Validity period extended to 8-31-45. Issued and effective 9-11.

ISSUANCE, ADJUSTMENT, AMENDMENT, PROTEST AND INTERPRETATION OF PRICE REGULATIONS—Rev. Proc. Reg. 1, Am. 9—Section on protests, (as distinct from petitions for amendment) of maximum price regulations greatly amplified, with detailed instructions as to right to protest, time and place for filing, proper form, and action by Administrator on protests, as well as incorporation of material in the record of the proceedings, receipt of oral testimony, and right to consideration by a board of review. Issued 8-26.

ADJUSTMENT OF CEILINGS FOR COMMODITIES OR SERVICES UNDER GOVERNMENT CONTRACTS—Proc. Reg. 6, Am. 6—Protests of applicants whose application for adjustment of ceilings is denied need no longer be filed within 60 days of denial, but at any time, in accordance with provisions of Rev. Proc. Reg. 1. Issued 8-29, effective 9-4.

War Production Board

OIL BURNERS—L-74, as am. 8-29-44—Persons wishing to manufacture or assemble more Class B oil burners than permitted under L-74, may apply for permission as explained in Pri. Reg. 25, (methods for resumption of civilian production) but any so manufactured are still subject to all the delivery restrictions of L-74. Issued 8-29.

GENERAL INDUSTRIAL EQUIPMENT—L-123, as am. 8-31-44—Delivery of any item under and in accordance with Pri. Reg. 24 (purchase of manufacturing equipment for civilian production) is free from L-123's requirement as to rating. Issued 8-31.

RUBBER PROCESSING MACHINERY AND EQUIPMENT—L-143-a, as am. 9-5-44—Orders for rubber processing machinery not specifically rated on Form WPB-1277 or scheduled under L-143-a are considered unrated, and may be filled only to extent that production and shipment of specifically rated or scheduled orders will not be interfered with. Issued 9-5.

MATERIALS FOR PRODUCTION OF REPLACEMENT STORAGE BATTERIES—L-180, as am. 8-31-44—Anyone who wants to produce more automotive replacement storage batteries than are permitted by L-180 (including those persons permitted to make none) may apply for permission as explained in Pri. Reg. 25 (methods for resumption of civilian production), and the restrictions of L-180 as to inventories do not apply to any batteries so authorized. Issued 8-31.

MANUFACTURE OF METAL JACKETS FOR WATER HEATERS NOW UNRESTRICTED—L-185, as am. 8-29—In addition, anyone who wants to manufacture or assemble more direct-fired or indirect water heaters than his quota or his authorization on GA-1850 permits, including persons without quota or authorization, may apply for permission under Pri. Reg. 25. Issued 8-29.

PLUMBING AND HEATING TANKS—L-199, as am. 8-29-44—As in above-cited orders, production of plumbing and heating tanks may be permitted, upon application, under Pri. Reg. 25. Issued 8-29.

MANUFACTURE OF AUTOMOTIVE MAINTENANCE EQUIPMENT—L-270, as am. 8-31-44—Permission to manufacture automotive maintenance equipment or repair parts may be given under Pri. Reg. 25, as outlined in other limitation orders, above. Issued 8-31.

WAR PRODUCTION BOARD REPLACES OFFICE OF RUBBER DIRECTOR—R-1, Direction 1—All communications, reports, or applications required by R-1 to be made to the Office of the Rubber Director are now to be made to the WPB direct. Issued 9-4.

LIMIT ON PERMITTED GAS EXTENSIONS TO GOVERNMENT AGENCIES RAISED FROM $1,500 TO $10,000—U-1-a, as am. 8-31-44.

$10,000 LIMIT ON EXTENSION OF GAS FACILITIES FOR WHICH SPECIFIC WPB AUTHORIZATION HAS BEEN ISSUED—U-1-d, as am. 8-31-44.

GAS EXTENSIONS TO REMODELED PREMISES FOR WHICH NO SPECIFIC WPB AUTHORIZATION HAS BEEN ISSUED—SO U-1-f, as am. 8-31-44—$10,000 is new total cost limit for any continuous extension, and it must not duplicate an adequate service of the same type already existing. 1,000 linear feet of main and service pipe for each consumer is now permitted for gas extensions. Issued 8-31.

PRODUCERS' EXTENSION OF GAS FACILITIES TO CERTAIN CONSUMER PREMISES NOW GOVERNED BY U-1-d—SO U-1-h, Revocation—Those extensions formerly covered by U-1-h are now included under U-1-d. Issued 8-31.

NATURAL GAS RESTRICTIONS—U-7, as am. 8-29-44—Adams County, Ill. added to Exhibit B list (to which certain installation and delivery restrictions apply), and the area of Kansas to which Exhibit C installation and delivery restrictions apply is redefined as that served by 5 listed gas companies, with the exception of eight listed counties. Issued 8-29.

INVENTORIES OF CONTROLLED MATERIALS—CMP 2, as am. 9-5-44—The 60-day inventory limitation does not apply to acceptance and delivery of controlled material if delivery is made under a specific WPB direction issued under CMP 1, and such material is to be converted into another form of controlled material. Issued 9-5.

PREFERENCE RATINGS FOR MANUFACTURERS NOT OBTAINING PRODUCTION MATERIALS UNDER CONTROLLED MATERIALS PLAN—Pri. Reg. 11B, as am. 9-1-44—Persons wishing to produce unclassified products covered by orders containing references to Pri. Reg. 25 or which are listed on directions to Pri. Reg. 25 may apply for authorization as explained therein. Issued 9-1.

AUTHORIZATIONS UNDER PRI. REG. 25—Pri. Reg. 13, Direction 1—Production schedules authorized under Pri. Reg. 25 do not permit acquisition of materials or products limited under Pri. Reg. 13 to sales on ratings higher than AA-5, or which require special

WPB permission. A holder may make a special sale of material described as controlled in CMP 1, to a buyer having an initial letter Z allotment symbol, without WPB special permission, and buyer need not charge such material to any CMP allotment account. Non-controlled material or products requiring, by Pri. Reg. 13, an AA-5 rating may be sold to Z allotment symbol holders, in the same manner. Issued 8-30.

SPECIFIC WPB PERMISSION REQUIRED BEFORE PLACING CERTAIN UNRATED PURCHASE ORDERS—Pri. Reg. 24, Am. 1—Unrated orders for machine tools, manufacturing machinery, and similar equipment needed for civilian production require WPB approval before placement. Issued 8-28.

EXCHANGE OF TECHNICAL INFORMATION BETWEEN MANUFACTURERS OF SYNTHETIC RUBBER AND RUBBER-CONSUMING PRODUCTS—WPB Certif. 25, Am. 1—Either WPB or Rubber Reserve Co. are to supervise such exchange hereafter, replacing Office of Rubber Director. Issued 8-31.

ALL NON-MILITARY PRODUCTION WILL BE UNRATED AFTER CLOSE OF EUROPEAN WAR—Release concerning Reconversion Program—Only one preference rating will exist, in addition to the present emergency AAA rating. It will be reserved exclusively for military programs during war against Japan. All other production will be unrated. Manufacturers will be allowed to accept unrated orders, but must fill rated military orders ahead of all other business. WPB will retain sufficient control to see only that materials and products are equitably distributed. Steel and copper allocations under CMP will continue only for the quarter in which European hostilities cease. Issued 9-5.

Interstate Commerce Commission

CURRENT EXPLOSIVES REGULATIONS COMPARED WITH PROPOSALS OF BUREAU OF EXPLOSIVES AND OF B. R. T.—ICC 3666, Notice of Proposed Revision of Rules for Transportation of Explosives—Written comments concerning the proposed changes in the handling of placarded railroad cars are desired by the Commission within 30 days of notice date, after which determination will be made or formal hearing held. Issued 8-30.

Executive Orders

TRANSFER OF FUNCTIONS AND RESPONSIBILITIES OF OFFICE OF RUBBER DIRECTOR—EO 9475—All orders of ORD remain in effect, except as modified by WPB chairman. Rubber Reserve Co., under direction of Secretary of Commerce, is to administer acquisition of and research concerning natural and synthetic rubber. Issued and effective 9-1.

War Shipping Administration

BASIC RATES DRY CARGO VESSELS—WSA GO 8, Supp. 10, Am. 2—Six rates per deadweight ton per month, ranging from $5.60 for 3,500-3,999 tonnage to $7.35 for 1,000-1,499 tonnage, added to GO 8's list of dry cargo vessel basic rates. Issued 8-31.

War Manpower Commission

CHANGES IN CRITICAL LABOR MARKET AREAS—WMC Reclassification of Labor Market Areas—Freeport and Joliet, Ill., Marion, Ind., and Pontiac, Mich. are moved from Group II to Group I (critical). Removed from Group I to Group II are Eureka, Calif., Hartford, Conn., Hastings, Neb., Newport, R. I., and Portland-Biddeford-Sanford, Me. Issued 9-1.

Tire Inspection Records Ended

NPN News Bureau

WASHINGTON—Tire inspection records, used primarily as a record of gasoline rations issued each automobile, will be replaced by a new mileage rationing record after current "A" gasoline ration books expire, OPA announced this week.

We've Done More Problems Than We Thought Were In The Book! ★ ★ ★

WORKING for the Air Corps, Bureau of Aeronautics, Ordnance Department and Quartermaster's Department has given us a more diversified experience than we could have acquired in a lifetime of normal years.

New jobs . . . rush jobs . . . vital jobs . . . demand precision work on quantity production. And on our prime contracts, all engineering and production tooling are done by Phillips engineers.

When this war is over, we'll be better able to serve you than ever before. An enlarged plant . . . fully modernized facilities . . . and a staff trained by war emergencies to take any problem in its stride.

Meanwhile, some of our standard products are still available, under proper ratings and for the war effort. Send now for your copy of the Phillips catalog. You will find it invaluable tomorrow—and also useful today.

Wartime Production of Phillips Pump and Tank Co.
(Prime Contracts Only)

AIR CORPS:
Oil Pressure Tanks for spraying motors.
Portable Oil Buggy.
Portable Drain Oil Tanks.
Food Containers.
Tool Chests.

QUARTERMASTER:
Oil Barrel Pumps.
Gasoline Rotary Pumps.

BUREAU OF AERONAUTICS (NAVY):
Aircraft Tail Jacks.
Universal Airplane Tow Bars.

ORDNANCE DEPT.:
M-4 Tank Servicing Tools.
Spare Parts Kits for motor trucks.

ESTABLISHED 1910 DEPENDABLE PHILLIPS SERVICE STATION EQUIPMENT

★ ★ ★

PHILLIPS PUMP & TANK CO.
5005 Brotherton Rd. Cincinnati 9, Ohio

BYRNES REPORTS ON PARTIAL CONVERSION

(*Continued from p.* 3)

"(6) Where practical considerations make it possible, companies responsible for the development and engineering of specialized products will be retained in their manufacture in preference to those companies which are merely licensed for their manufacture.

"As a result of advanced planning, representatives of the procurement agencies are today conferring with contractors, agreeing in advance of termination as to methods of accounting, and settling such questions as the allotment of overhead expenses as between war production and civilian production.

"The agencies will also notify their contractors by telegram when the defeat of Germany is announced of the curtailment of war production in the contractor's plant so that the contractor may start immediately with converting to normal civilian production that portion of his plant no longer required for war production."

ON NAVY CUT BACKS: "The task of the Navy following the surrender of Germany will be just as great as before the surrender."

ON MARITIME CUT-BACKS: "The Maritime Commission, like the Navy, has a tremendous task to perform in the war of the Pacific. The surrender of Germany will not lessen the necessity for the construction of certain types of ships, but it will make possible the cancellation of some ships. Plans have already been prepared to become effective upon the cessation of hostilities in Europe, listing the contracts to be cancelled or curtailed."

ON STIMULATING CIVILIAN PRODUCTION THROUGH THE MODIFICATION OF WAR CONTROLS:

"There will be some time lag between the curtailment and cancellation of war contracts and the resumption of large civilian production. The length of that period may be lessened by the promptness with which war time restraints are removed.

"To insure the utmost speed in reconversion and to permit the prompt resumption of civilian production at least equal to the civilian production of the United States in 1939, controls now in existence will be released or modified to the fullest extent possible to permit manufacturers a freedom in planning for the resumption of civilian production and in ordering materials and components which will assure maximum speed.

"The military needs for the war against Japan must be assured. Unquestionably there will remain areas of tight supply which will necessitate war production receiving a preferential position. However, the Controlled Materials Plan, with its necessary but cumbersome paper work, will no longer be required, providing industry as a whole continues to recognize the importance of war and essential civilian production and the necessity for the protection of small business.

"As the Acting Chairman of the War Production Board has announced, existing controls will be relaxed immediately after the defeat of Germany and the following controls substituted:

"(a) The establishment of a new military preference rating to be assigned to the war procurement programs of the War Department, Navy Department, Maritime Commission, War Shipping Administration, and military Lend-Lease. Contractors will be required to accept orders in this rating band and to fill these orders in precedence to any other orders.

"(b) The establishment of a *new civilian production preference rating* band *subordinate* to the military rating, but *superior to all other ratings to be used only if necessary* to protect the more essential civilian programs. It is not anticipated that this rating band will be necessary and it will be used only in the event programs in this category fail to meet schedules.

"(c) The new rating structure will be placed in effect immediately following the defeat of Germany. It will automatically assign the new ratings to the prime contractors of the designated programs and these prime contractors will be directed to extend the ratings to their suppliers. After an appropriate period has elapsed to permit a rerating and rescheduling of orders, all other outstanding preference ratings will become void.

"(d) The Priority Regulations now in effect will be amended to conform to these changes.

"(e) The Controlled Materials Plan will be revoked immediately after the defeat of Germany, except that it will remain in effect for steel and copper during the remainder of the quarter in which the revocation is issued. In effect, orders under the Controlled Materials Plan become priority orders; however, suppliers will be permitted to receive and fill all orders placed after the defeat of Germany to the extent made possible by the cancellation of orders which they then hold under the Controlled Materials Plan.

"(f) L and M Orders will be revoked, except for a few selected orders which must be retained as a mechanism for programming items which will continue in short supply, such as tires, batteries, motors, lumber, and some textiles and chemicals.

"(g) The War Production Board will retain the authority which it now has to continue or to institute controlled mechanisms to cope with individual production and procurement problems, to include the authority to issue individual directives to manufacturers or suppliers to produce or deliver a product or products to a designated purpose. This will permit the War Production Board to take appropriate action to prevent or to correct hardship cases."

ON STEPS THAT WILL AID EMPLOYMENT DURING RECONVERSION: "The fear of prolonged unemployment following V-E Day has been exaggerated. The prosecution of the war against Japan will demand the continued production of great quantities of war materials. Basic industries such as steel and textiles will not be affected. We will speedily return to civilian production. The pent-up demand for goods will come from a people who have the money with which to buy them.

"But it is inevitable that in some particular industries and in some communities there should temporarily be reduced employment. This is more likely to occur where the curtailment is in government-owned plants engaged entirely in war production and having no plans for civilian production.

"In order to meet this situation I have appointed a committee consisting of

Quality Compounds for Rust and Corrosion Prevention

made better with

SONNEBORN'S

PETRONATE

A purified, highly concentrated petroleum sulphonate—free from all impurities—absolutely uniform in all essential properties.

Write for Details

WHITE OIL DIVISION

L. SONNEBORN SONS, INC.

88 Lexington Avenue, New York 16, N. Y. • Refineries: Petrolia and Franklin, Pa.

Branch Offices: Chicago, Philadelphia and Los Angeles • Stocks carried in Principal Cities

Southwestern Distributors: Sonneborn Bros., Dallas, Texas

representatives of the War Production Board, the War Manpower Commission, the Defense Plant Corporation and the Surplus War Property Administration. They are at work interviewing the contractors. Their objective is to ascertain whether or not the contractor will exercise his option to buy or lease the plants. If he is not interested, then the Committee, having determined to what uses the plant can be put, will inquire whether local capital or some corporation or individual can be interested in purchasing or leasing the plant—of course, subject to the policies prescribed by law.

"The primary purpose is to help the manpower situation. The presence of a representative of Manpower Commission on this Committee will enable that agency to know what progress is being made in arranging for the operation of these plants. If such operation does not seem probable, Manpower Commission, in advance, can make plans to secure jobs for the workers when their employment is terminated.

"It is obvious that any restrictions upon the sale or leasing of these plants that will delay their conversion to civilian production will cause unemployment. In the government-owned plants are several million war workers. If they are not employed until other plants can be built or other machinery installed, they will be out of work for a long period. The plant equipment of these government-owned plants must be put to work promptly if jobs are to be provided."

ON THE LIFTING OF WAR TIME MANPOWER CONTROLS: "It is apparent that with the defeat of Germany the necessity for existing manpower controls will largely cease. Hence, these controls will be abandoned to facilitate the transfer of manpower from the curtailed war programs to civilian production. The services available through the War Manpower Commission and the United States Employment Service will continue. The Production Urgency and Manpower Priorities Committees will also continue to function as at present although their functions will become advisory.

"However, a loss of manpower in war production below the needs to meet the schedules established for the war against Japan would necessitate a prompt restoration of controls. It is anticipated that the voluntary establishment of ceilings will correct such conditions locally, if the need arises."

ON THE 40-HOUR WEEK: "On February 9, 1943, I recommended that the President issue an order authorizing the increased employment to 48 hours. As the reason for the Order will not exist after V-E Day, I hope an order will be issued returning to the forty-hour week provided by law, except to take care of production necessary to the war effort and some specially tight labor areas."

ON RE-CONVERSION PRICES: "When a manufacturer has been advised of the curtailment of a war contract and that he can resume civilian production, he probably will not move until he ascertains what ceiling price will be placed upon his goods. The price of civilian goods which have been produced throughout the war has been fixed by OPA and takes into account increased production costs. But articles not now produced, such as automobiles, radios, refrigerators, may have to be priced somewhat above the prices prevailing in 1941 when civilian production of these articles was stopped.

"It is entirely possible that on V-E Day, as a result of the curtailment of contracts, several hundred producers would at the same time ask OPA for a decision as to a ceiling price. Obviously, if a decision is delayed until investigation can be made of production costs of all such articles at that time, it would increase the ranks of the jobless.

"One practical way would be to authorize a percentage increase over earlier prices for articles which have been out of production for some time, with the right and duty devolving upon OPA to adjust such prices upward or downward in the light of experience. Since January 1, 1941, when the production of civilian durable goods was drastically curtailed, industrial wholesale prices have increased. Often it is difficult to ascertain quickly the amount of such increase because the increase has not been uniform for all commodities. Some commodities have risen substantially while others have declined or not risen at all. For example, iron and steel prices have not risen and the price of aluminum actually has declined. There has been very considerable technological progress during the war which should serve in some cases to offset increase in labor and material costs. . . .

"The Stabilization Director and the Price Administrator are engaged in determining the formula to be applied in arriving at the percentage increase to be allowed. . . . No hard and fast rule can be applied to all industries but a price program is being worked out that will make certain that the reconversion to civilian production in any industry will not be delayed by lack of information as to prices."

ON TAXES: "Before the manufacturer returns to production he will want to know something more than the ceiling price. He will want some idea about taxes in order to determine whether there will be a profit in his business. Everybody cannot be an employee. There must be an employer if people are going to get jobs. Before a man puts his own money and asks his friends to put money in a business he wants to know that there is some prospect of his making a profit.

"The excess profit tax is a war tax. With the ending of the war there should be an end to excess profit taxes. It cannot be done upon V-E Day because we will still have war production and war profits, but the Administration and the leaders of the Congressional Committees might well announce an intention to urge the elimination of the excess profit taxes when the war with Japan is at an end.

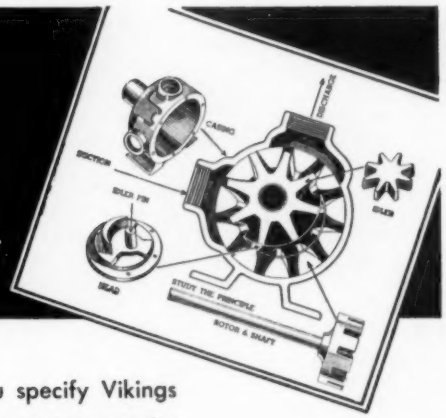
"We should consider, also, the advisability of allowing manufacturers to depreciate new machinery substantially in the years in which such machinery is purchased. Great Britain has incorporated such a plan in its current Budget. This action would induce many companies to hazard new ventures, thereby increasing employment. . . .

ON THE MAINTENANCE OF INCOME AND EMPLOYMENT LEVELS: "The fear of timid people may temporarily retard our return to full production and full employment. But it will be only for a short time.

"Today America is stronger than ever before. We should make the maintenance of the present national income and high level of employment our goal. . . ."

MEMO:

To Engineers and Purchasing Agents



You hit the jackpot when you specify Vikings as MUST EQUIPMENT for any rotary pumping job. Viking Pumps operate on the famous "gear within a gear" principle, with only four major parts and ONLY TWO MOVING PARTS. Simplicity of design, plus highest quality construction, carried forward for 33 years, have brought Viking to today's position of leadership in the rotary pump industry.

Write today for Bulletin 2500 which gives complete information about Viking Pumps widely used in the petroleum industry. IT'S FREE.

VIKING PUMPS — FIRST IN AMERICA

VIKING Pump COMPANY
CEDAR FALLS, IOWA

EQUIPMENT LACK IN MICHIGAN

(*Continued from p.* 16)

automatic barrel filler I intend to get."

° ° °

The other bulk plant operator in the Grand Rapids area, who plans considerable expansion as soon as possible after the war is over, now operates north to Cadillac, east to Ionia and south to U. S. Highway 12. He has been in business for 14 years. Sales are made to service stations, farmers and commercial consumers.

President of the company said that prewar gasoline sales averaged from 235,000 to 250,000 gal. monthly, plus half million gallons of fuel oil annually. Michigan gasoline gallonage report shows 1943 sales totaled 1,300,449 gal. and for the first six months of 1944 they were 629,404 gal. Sales of gasoline and fuel oil are further supplemented by motor oils, greases, technical naphthas and a few accessories.

Company owns nine service stations and serves 18 dealers in addition. There is one bulk plant with 185,000 gal. capacity, equipped with meters and vapor devices purchased just before the war, so the company feels that the plant is as near up to date as possible. There are 32 employes now, and prewar, 45.

Asked about competition, president of the company said there were very few really good independent marketers in his territory now. However, there are some price cutters who sell as low as 1.50c below major company posted prices; but this is not serious at the present because of limited supplies. He confirmed statement made by Mr. Odell of the Odell Oil Co. that the population in the Grand Rapids trade territory has not changed materially since the war started.

Plans Delayed by War

Listing here of needed equipment refers only to the present bulk plant, stations and the things that go with them, and does not include any of the things that certainly will be needed when the expansion gets under way as schedule of equipment for that development has not yet been made up although preliminary plans were under way before the war and have been delayed.

President of the company said that the bulk plant he has now is sufficient for postwar operation in the territory to be served from it. The storage tanks are equipped with vapor saving apparatus and meters, and right now no loading racks, mixing equipment, valves or bulk plant pumps are needed. Two of the meters now in use, however, will have to be replaced with new ones.

Service station equipment has held up fairly well, but during the first six months after the end of the war when motorists really start coming back in a big way, the company figures on buying 20 station pumps as replacement and for two new stations which are planned for opening in Grand Rapids.

Six 4,000 gal. and four 6,000 gal. station storage tanks will also be needed, together with necessary lines and pipe for installation. The two new stations will require among other things, twelve 500 watt flood lights and eighteen 300 to 500 watt island lights. Three 1½ h.p. air compressors with 60 gal. tanks are also needed, including two for the two new stations.

"We're not strong on greasing yet, but are talking about it for postwar," was the answer to our question about lubricating equipment. However, three lifts were put on the wanted list.

Rest Room Equipment

Complete rest room equipment will be needed for the two new stations. Two company stations are closed now, but only one will be reopened as the other is in a poor location. Equipment in both has been pulled, and some of it will go back in the one station to be re-opened.

Most bulk plant and station equipment put out by manufacturers just prior to the war, the company president felt, was satisfactory, but after the war he looks for manufacturers to do further modernizing and indicated his interest in up-to-date equipment.

In addition to the two tractors, plans are to buy one 1½ or 2-ton Chevrolet and a 1½ ton straight job. The two tanks used with the present tractors are 3900 and 4100 gal. These are to be replaced with 8500 gal. double bottoms if state restrictions permit.

Two fuel oil trucks have 600 gal. tanks now, and these are to be traded for new ones of 1200 gal. each. The 1000 gal. city tank wagon was recently replaced with a secondhand semi-trailer with 3200 gal. capacity tank.

These various units now in operation total five, which is the same number as prewar. No trucks have been laid up for any great length of time, but there has been a definite lack of repair parts and tires, which keeps the company official sitting on the edge of his chair for fear something will happen and tie up his transportation. Repairs are handled by commercial garages and he has been forced to accept some makeshift repair jobs. One truck, for instance has two wheels with welded spokes. Two new wheels are badly needed. Increase in truck operating expense because of forced using of old equipment was estimated at 50%. All equipment as originally set up is still in use that way; that is, none has been converted to heavier hauling by addition of special axles.

Products Limited

Over all repair bill for maintenance of trucks, plant facilities and equipment because of inability to replace it with new stuff now runs from $600 to $800 a month—up about 100%, according to the president of the company.

Inasmuch as the supply of products is now limited, no effort has been made to increase gallonage. This company, like a good many others, feels that they are doing well to take care of old customers through the emergency. For this reason, a finger cannot be put on business lost because of lack of efficient new equipment and manpower to care for it.

Inventory of repair parts and even old equipment is very low. New replacement parts are bought from hand to mouth as needed and feeling is they do well to get it. In the store room, however, are three old air compressors, two of them needing motors as mentioned already; two old station pumps and 12 old highboys. There are no extra tanks of any kind on hand.

No attempt is made now to maintain a regular preventive maintenance schedule, however, all but one company owned service station has been painted and the painter was due to work it over during the week, head of the company said. Bulk plant was also then in process of being painted. All but five trucks need painting.

This sews up the survey of equipment for present operating territory; but when the expansion plans are put into effect, the items mentioned here are small in comparison to the equipment that will be needed, for the enlarged territory will take in some of the largest and best known towns in southwest Michigan.

° ° °

John Barron, owner of the West Michigan Oil Co., a Shell jobber for the past 15 years, lives at Saugatuck, the vacation play ground of southwest Michigan, on Lake Michigan. His bulk plant is at Fennville, about six miles distant. He operates over the west half of Allegan County. About 60% of his sales are through stations and 40% to farm and commercial accounts.

"This year I will sell between 500,000 and 600,000 gal. of all products," Mr. Barron said. "I would have sold another 150,000 gal. without rationing, so my sales are off about 25%."

Gasoline gallonage only on which he paid the tax during 1943 totaled 305,284 gal. according to the Michigan gallonage report, and for the first half of 1944, 185,330 gal.

He has four stations, which are leased to dealers, and the company serves 21 other retail outlets. Bulk plant at Fennville consists of five 20,000 gal tanks. An additional 20,000 gal. tank is located in Saugatuck for convenient handling of fuel oil. This gives a total bulk plant capacity of 120,000 gal. Prewar there were three trucks. Now there are only two.

Major companies are considered principal competitors. There are no war plants of any consequence in the operating territory. Mr. Barron estimated that about 5% of the people had departed for war plants and via the draft. That is only part of the story, however, for vacationists and holiday crowds do

not pile in through the summer, holidays and week ends as they used to. That makes a difference, which is greatly added to by the fact that gasoline rationing forces many people who do come to ride the train, the bus or cross the lake by boat from Chicago to near by Benton Harbor.

Ample Bulk Plant Storage

Thinking about postwar, Mr. Barron feels he has ample bulk plant storage since one of the 20,000 gal. tanks is now idle. Present loading racks, pumps and other bulk plant equipment are satisfactory, too. However, 12 computer pumps for stations and a small amount of lines and pipe for replacement when they are installed, are needed. Four new Shell neon signs were also put on the list of needs in the way of lighting equipment. Air compressors are still O.K. and no new ones needed now.

Only two of the four company stations have lifts, Mr. Barron said, and after the war two new ones are to be installed at the other two stations. Dealers furnish their own lubricating equipment and Mr. Barron did not know of any additional needed, but he estimated that the dealers would want at least six sets of rest room equipment for rehabilitation and remodeling of their stations.

Mr. Barron has no stations of his own which are closed or which have been closed, but he said 10 of his dealer outlets had closed, and so far as he knows there are no plans yet for re-opening them. However, when motorized vacationist business picks up after the war, ideas about the closed dealer stations will probably change.

No Plans for Meters

One of Mr. Barron's stations located in Douglas, across the river from Saugatuck is operated by Parish Motor Sales. It's a modern setup on a good highway, and tentative agreement has been made to enlarge it by the addition of a six door, quick service garage. Mr. Parish of Parish Motor Sales, formerly owned a large garage in Saugatuck and is eager to get back in the business.

One of the six new stalls is to be equipped with a lift, another a pit and a third a grease rack. "The fourth will have another modern piece of equipment of some kind that is sure to come along when manufacturers get busy again," Mr. Parish outlined. "Stalls Nos. 5 and 6 will in fact be one large repair shop," he said, "where motorists in a hurry can duck in and out after getting the quick service they will want."

Installation of this new garage, means the purchase of a complete set of new equipment, tools and supplies. A new car sales agency is to be operated in connection with it.

Returning to Mr. Barron, he said that at the beginning of the war, all of his equipment was comparatively modern. However, he equipped his two delivery trucks with meters during August. He has no plans for meters at his bulk plants.

One of his two tank wagons is a 1940 International, and the other a 1940 Ford. Both are in fair condition and are equipped with 750 gal. tanks; however, repairs have been needed from time to time and these have been slow. The International was laid up for two months recently when the motor was being rebuilt.

Since the war brought added operating costs and difficulty with repairs, a special effort has been made to see that each truck has a full load on each trip. Deliveries to farm accounts have been sandwiched in with trips to service stations in order to cut corners. Mr. Barron believes that he will be able to continue most of this after the war.

Commenting on the cost of truck maintenance, he said that rebuilding the International motor cost $200. "It should have been $65," he said.

Station and bulk plant equipment is looked after by a local repairman, who charges $1.00 an hour, but who received only 60c an hour three years ago, according to Mr. Barron.

Difficult repair jobs have brought about robbing of one pump to fix another, and there are now six old station pump carcasses remaining in the warehouse with most of the works gone. Shifting usable pumps about from closed stations to ones operating has added to the cost of maintenance, which Mr. Barron estimated was up at least 50%. He has no surplus inventory of equipment other than the half dozen old pumps. "But we've made the grade so far," he said, "and I guess we'll pull through."

It seems that in this area, paint material is easier to obtain than men to apply it. Mr. Barron said all of his station pumps were painted last spring and he has sufficient paint to take care of the bulk plant. He has painted one station this year and will do another one this fall.

A side line business that paid off for some time, Mr. Barron said, was three over-the-road units that he owned until recently. He had a Diamond T 2½ tons, a 3½ ton Mack and a K-7 International hauling steel out of Chicago. He started this in 1941, but the difficulty of getting good drivers and keeping them increased. Lack of tires and mechanical repairs at reasonable cost could not be laughed off either. He sold the last unit a few days ago.

Michigan Oil Leaders Meet OPA in Harmony Session

Special to NPN

TRAVERSE CITY, Mich. — Chairmen of the four OPA industry committees in the state of Michigan got together here Sept. 11, with the heads of OPA district offices and regional representatives from Cleveland, O., and threshed out adverse attitudes regarding rationing and enforcement. Future prospects for harmony look good, according to Joseph D. Hadley, one of the committee chairmen and executive secretary of Michigan Petroleum Assn.

OPA representatives present from Cleveland were: C. J. Houser, regional rationing executive; O. D. Rueseger, regional enforcement; Herbert Fowkes, regional mileage rationing officer. The four OPA district directors were accompanied by their rationing and enforcement officers.

Industry chairmen in addition to Mr. Hadley were Leslie Kamperman, Leonard Refineries, Alma; LeRoy Thompson, Standard of Indiana, Grand Rapids, and Esau Cohodes, Sinclair Refining, Escanaba.

Only general policies and practices were discussed, Mr. Hadley said, but this smoothing of the bumps is expected to result in OPA clearly defining the duties and responsibilities of the four industry committees. Under the improved mutual relationship OPA and the industry are to consult each other as definite problems arise.

Coming Meetings

SEPTEMBER

American Chemical Society, New York City, Sept. 11-15.

Empire State Petroleum Assn., Inc., fall meeting, Hotel Commodore, New York City, Sept. 20-21.

Michigan Petroleum Assn., Park Place Hotel, Traverse City, Sept. 26-27.

OCTOBER

American Assn. of Oil Well Drilling Contractors, annual meeting, Ft. Worth, Oct. 3-4.

Indiana Independent Petroleum Assn., fall meeting, Indianapolis, Oct. 11-12.

I.P.A.A. Director's Meeting, Dallas, Oct. 9-11.

Virginia Oil Men's Association, fall convention, Hotel Roanoke, Roanoke, Virginia, Oct. 13.

National Lubricating Grease Institute, Edgewater Beach Hotel, Chicago, Oct. 23-25.

Ohio Petroleum Marketers Assn., Deshler-Wallick Hotel, Columbus, O., Oct. 25-26.

NOVEMBER

Society of Automotive Engineers Air Transport and Engineering Meeting, Kansas City, Nov. 16-17.

South Dakota Independent Oil Men's Assn., Mitchell, S. D., Nov. 27-28.

Koskinen Lauds Oil Industry In Address at Rochester

Special to NPN

ROCHESTER, N. Y.—Y. A. Koskinen, advertising manager for NATIONAL PETROLEUM NEWS, addressing the Sales Executives Club here on Sept. 11 said that the oil industry's war record is a tribute to a highly competitive capitalistic industry.

The oil industry's performance for war, he asserted, was possible because a large number of private corporations had geared up their research and manufacturing facilities in peacetime years to be competitive. This resulted in producing, manufacturing and transporting a record-breaking quantity of oil products, he said. It also resulted in products far superior to those available to the enemy, and created new wartime products.

Market Reports

MIDWEST—Midwestern refiner withdrew 7.25c quotation on Ethyl gasoline last week since he has no more available for open spot sale. Withdrawal reduced 6.75-7.25c price range on this product to flat 6.75c for Midwestern refiners quoting on Group 3 basis. No further price changes reported.

All quoting refiners report compliance with OPA Amdt. 15 to MPR 88, making Group 3 quotations for gasoline and kerosine subject to adjustment of approximately 0.5c lower for destination prices on deliveries into state of Indiana and metropolitan Chicago on shipments originating out of actual Group 3 territory.

Refiner's kerosine storages are building up rapidly but very little is going into jobber storages, refiners report, because many jobbers refuse to accept kerosine for sale in place of range oil and No. 1. Refiners are making very little No. 1 or range oil because of greater profit to be had in making kerosine. However, refiners and marketers report large quantities of kerosine available for purchase. Lube oils are easing again because of cutbacks on Army purchase requirements and are beginning to accumulate slowly in storage.

* * *

CALIFORNIA—Prices remained unchanged throughout the week with ceiling levels prevailing for the most part. It is reported that persons desiring to open new service stations at this time are having little trouble in obtaining products.

* * *

GULF COAST—Refiner in this area reduced ceilings 0.125c in compliance with OPA Amendment 16 to MPR 88 on 70-74 leaded gasoline retroactive to Aug. 15 in cargoes domestic and export from all Gulf ports now quoting 5.625c. Price range of 5.625-5.75 remains unchanged.

One refiner reports doing "no buying or selling" in this area lately. Kerosine fair but gasoline demand continues.

* * *

ATLANTIC COAST—Four East Coast refiners reduced ceilings in compliance with OPA Amendments No. 16 and 17 to MPR 88 on 70-74 octane gasoline and kerosine. Making new ranges on gasoline as follows: 9.075c at New York in tank cars; 8.975c in barges, New York; 9.175c at Albany; Philadelphia, 9.075c; Baltimore, 8.825c; Wilmington, 8.175-8.625c; Charleston, 8.175-8.575; Savannah, Jacksonville, Miami and Tampa, 7.845-8.275c; Portland, 9.375c, and Boston and Providence, 9.275c.

On kerosine price ranges now are 6.75-7.05c at Wilmington; 6.9-7.2c at Charleston, and 6.55-7.05c at Savannah, Jacksonville, Miami and Tampa. One New York refiner reports supply built up on this product in storages due to warm weather.

* * *

MIDCONTINENT — Kansas refiner quoting high of 4.75c on 42-44 w.w. kerosine and low of 4c on No. 1 p.w. reported changing postings to 4.7c and 4.1c for the two products, respectively. Other refiners quoted 4.7c on kerosine and 4.1c on No. 1, also, making flat prices for the products. Only refiner quoting in Arkansas market withdrew posting of 4c on No. 1 fuel since he is no longer making it.

Several refiners said August gasoline demand, based on sales of all grades was from 12.5 to 18% higher than a year ago. No appreciable letup has yet been noticed and demand will probably continue at same level for several weeks, majority agree.

Some pickup noted in call for burning oils and kerosine but demand still not heavy with most refiners. Most inquiries for range oil, No. 1 p.w. and No. 2 straw.

Five cars Grade 26-70 natural gasoline reported sold at 4.75c f.o.b. Group 3. No open spot sales reported f.o.b. Breckenridge; sellers quoted 4.375c during the week.

* * *

PENNSYLVANIA—During the past week, several western Pennsylvania refiners in both fields reduced their prices 0.6c and 0.5c, for gasoline and light fuels, respectively, in accordance with Amendment 17 to MPR 88. New price ranges for other districts are as follows: "Q" gasoline, 7.725-8c, 45 and 46 w.w. kerosine, 7.25-7.425c; 47 w.w. kerosine 7.375-7.775c; No. 1 fuel, 6.875-7.175c; Nos. 2 and 3 fuels, 6.75-7.175c and 36-40 gravity fuel, 6.625-7.175c. Price changes in the Bradford-Warren District fell within existing price ranges.

CRUDE PRICES

Since changes in crude oil prices are so few, the two pages of crude oil price tables hereafter will be printed only when there are sufficient changes in prices to warrant.

In the meantime a record is being kept in the Cleveland office of NPN and OILGRAM from which the publishers will be glad to make proofs, or letters or affidavits as to what the prices are, and without charge to regular subscribers. Changes in crude oil prices will be specially noted in this market section when made.

Crude Price Changes

No price changes reported during week ending Sept. 6.

For latest table of crude prices published, see NPN, Aug. 23, pages 49, 50 and 46.

Summary of Daily Gasoline Prices (September 5 to September 11)

U. S. Motor (ASTM octane)	Monday Sept. 11	Friday Sept. 8	Thursday Sept. 7	Wednesday Sept. 6	Tuesday Sept. 5
76 octane Ethyl:					
Oklahoma	6.75	6.75	6.75	6.75	6.75
Mid-Western (Group 3 basis)	6.75	6.75	6.75	6.75	6.75 – 7.25
N. Tex. (For shpt. to Tex. & N. M. dest'ns.)	7	7	7	7	7
W. Tex. (For shpt. to Tex. & N. M. dest'ns.)	7 (2)	7 (2)	7 (2)	7 (2)	7 (2)
70-74 octane:					
Oklahoma	5.875	5.875	5.875	5.875	5.875
Mid-Western (Group 3 basis)	5.875	5.875	5.875	5.875	5.875
N. Tex. (For shpt. to Tex. & N. M. dest'ns.)	5.875	5.875	5.875	5.875	5.875
W. Tex. (For shpt. to Tex. & N. M. dest'ns.)	5.875	5.875	5.875	5.875	5.875
63-66 octane:					
Oklahoma	5.625 (1)	5.625 (1)	5.625 (1)	5.625 (1)	5.625 (1)
Mid-Western (Group 3 basis)	5.625 (2)	5.625 (2)	5.625 (2)	5.625 (2)	5.625 (2)
N. Tex. (For shpt. to Tex. & N. M. dest'ns.)	5.625 (1)	5.625 (1)	5.625 (1)	5.625 (1)	5.625 (1)
W. Tex. (For shpt. to Tex. & N. M. dest'ns.)	5.75 (1)	5.75 (1)	5.75 (1)	5.75 (1)	5.75 (1)
60 octane & below:					
Oklahoma	5.25	5.25	5.25	5.25	5.25
Mid-Western (Group 3 basis)	5.2 – 5.25	5.2 – 5.25	5.2 – 5.25	5.2 – 5.25	5.2 – 5.25
N. Tex. (For shpt. to Tex. & N. M. dest'ns.)	5.2 – 5.25	5.2 – 5.25	5.2 – 5.25	5.2 – 5.25	5.2 – 5.25
W. Tex. (For shpt. to Tex. & N. M. dest'ns.)	5.25	5.25	5.25	5.25	5.25
Motor Gasoline, 70-74 oct.					
New York harbor	9.075	9.075	9.075	9.075	9.075
New York harbor, barges	8.975	8.975	8.975	8.975	8.975
Philadelphia district	9.075	9.075	9.075	9.075	9.075
Baltimore district	8.825	8.825	8.825	8.825	8.825– 8.95
Motor Gasoline:					
Western Penna. Bradford-Warren:					
"Q" Gasoline, Min. 70 Oct. (ASTM)	7.625– 8.825	7.625– 8.825	7.625– 8.825	7.625– 8.825	7.625– 8.825
Western Penna. Other Districts:					
"Q" Gasoline, Min. 70 Oct. (ASTM)	7.725– 8	7.725– 8	7.725– 8	7.725– 8	7.725– 8

Note: To conform with Article IV of MPR 88 as amended August 15 we are substituting 70-74 oct. ASTM for the old 72-74 oct. ASTM. We continue to include in this group, Housebrand quotations. 70-74 oct. prices effective Aug. 15.

Refinery Operations

(American Petroleum Institute figures in thousands of barrels of 42 gal. each. Figures include reported totals plus estimate of unreported amounts and are therefore on a Bureau of Mines basis.)

Districts	Daily Potential Refining Capacity Week Ended Sept. 2	Daily Potential Refining Capacity Week Ended Aug. 26	Per Cent of Refining Capacity Reporting Week Ended Sept. 2	Per Cent of Refining Capacity Reporting Week Ended Aug. 26	Daily Average Crude Runs to Stills Week Ended Sept. 2	Daily Average Crude Runs to Stills Week Ended Aug. 26	Per Cent of Reporting Capacity Operated Week Ended Sept. 2	Per Cent of Reporting Capacity Operated Week Ended Aug. 26
Combined**	2,518	2,518	90.3	90.3	2,491	2,498	98.9	99.2
Appalachian (Dist. No. 1)	130	130	83.9	83.9	101	116	77.7	89.2
Appalachian (Dist. No. 2)	47	47	87.2	87.2	64	59	136.2	125.5
Ind., Ill., Ky.	824	824	85.2	85.2	710	749	86.2	90.9
Okla., Kans., Mo.	418	418	80.2	80.2	370	383	88.5	91.6
Rocky Mt. (Dist. No. 3)	13	13	17.0	17.0	11	11	84.6	84.6
Rocky Mt. (Dist. No. 4)	141	141	58.3	58.3	86	99	61.0	70.2
California	817	817	89.9	89.9	759	783	92.9	95.8
Total U.S.—B. of M. Basis	4,908	4,908	87.2	87.2	4,592	4,698	93.6	95.7
U.S.—B. of M. Basis Sept. 4, 1943				4,245				

Districts	Gasoline Production at Refineries inc. Natural Blended Week Ended Sept. 2	Gasoline Production at Refineries inc. Natural Blended Week Ended Aug. 26	Stocks of Finished and Unfinished Gasoline Week Ended Sept. 2	Stocks of Finished and Unfinished Gasoline Week Ended Aug. 26	Total Stocks Gas Oil & Distillates Week Ended Sept. 2	Total Stocks Gas Oil & Distillates Week Ended Aug. 26	Total Stocks Residual Fuel Oil Week Ended Sept. 2	Total Stocks Residual Fuel Oil Week Ended Aug. 26
Combined**	7,340	7,045	36,609	36,776	22,631	22,182	19,384	19,128
Appalachian (Dist. No. 1)	299	329	2,224	2,182	471	529	277	290
Appalachian (Dist. No. 2)	206	177	1,403	1,435	231	225	217	178
Ind., Ill., Ky.	2,583	2,718	17,395	17,783	5,977	5,987	4,161	4,290
Okla., Kans., Mo.	1,441	1,428	6,605	6,609	1,920	1,922	1,452	1,432
Rocky Mt. (Dist. No. 3)	34	34	56	58	9	9	30	30
Rocky Mt. (Dist. No. 4)	324	371	1,832	1,971	359	359	635	659
California	2,038	2,010	13,797	13,926	10,366	10,330	33,720	33,332
Total U.S.—B of M. Basis	14,265	14,112	*79,921	80,740	41,964	41,543	59,876	59,339
U.S.—B. of M. Basis Sept. 4, 1943	12,351		70,552		37,274		67,152	

*Finished 67,003,000 bbls.; Unfinished 12,918,000 bbls.
**Includes East Coast, Inland Texas, Texas Gulf, Louisiana Gulf and North Louisiana-Arkansas districts.

U. S. Crude Oil Production

(American Petroleum Institute figures)

	WEEK ENDED Barrels Sept. 2 (Daily Average)	WEEK ENDED Barrels Aug. 26 (Daily Average)
Oklahoma	338,200	342,000
Kansas	266,250	278,900
Nebraska	900	500
Texas	2,108,600	2,108,600
Louisiana	362,750	362,450
Arkansas	80,350	80,900
Mississippi	46,400	45,900
Alabama	300	200
Florida	50	50
Illinois	200,100	205,500
Indiana	13,250	13,000
Eastern (Ill., Ind. & Ky. excluded)	72,500	69,450
Kentucky	25,200	24,300
Michigan	51,400	50,600
Wyoming	92,300	85,100
Montana	19,600	19,600
Colorado	8,950	8,650
New Mexico	106,050	106,050
California	864,500	865,700
Total, U. S.	4,657,650	4,667,450

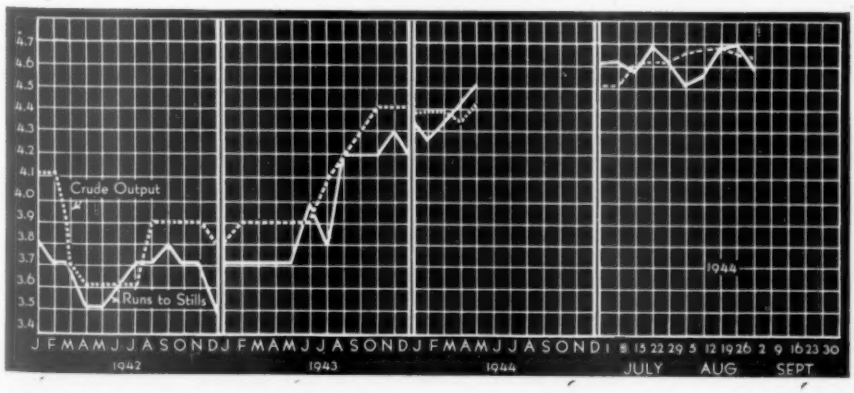
Crude Oil Stocks

(Bureau of Mines Figures in thousands of bbls.)

Grade or Origin	Aug. 26	Sept. 2	Change from Aug. 26
Penna. Grade	2,500	2,469	— 31
Other Appalachian	1,605	1,576	— 29
Lima-Michigan	1,057	1,037	— 20
Illinois-Indiana	14,080	15,497	+1,417
Arkansas	2,813	2,760	— 53
Kansas	8,828	8,462	—366
Louisiana:	12,979	12,963	— 16
Northern	3,136	3,186	+ 50
Gulf Coast	9,843	9,777	— 66
Mississippi	912	957	+ 45
New Mexico	6,294	6,267	— 27
Oklahoma	29,995	30,823	+828
Texas:	110,310	108,999	—1,311
East Texas	20,235	19,718	—517
West Texas	31,950	32,485	+535
Gulf Texas	30,922	30,394	—528
Other Texas	27,203	26,402	—801
Panhandle	6,473	6,019	—454
North	6,290	6,176	—114
South	5,711	5,513	—198
Other	8,729	8,694	— 35
Rocky Mountain	7,963	8,036	+ 73
California	21,340	21,522	+182
Foreign	2,255	2,114	—141
Total gasoline-bearing in U. S.	222,931	223,482	+551
Heavy in California	6,250	6,190	— 60

Crude Production & Runs to Stills

(Millions of Barrels)



N.P.N. Gasoline Index

	Dealer T.W. Cents Per Gal.	Tank Car Cents Per Gal.
Sept. 11	9.17	5.51
Month ago	10.51	6.17
Year ago	10.37	6.92

Dealer index is an average of "undivided" dealer prices, ex-tax, in 50 cities.

Tank car index is weighted average of following wholesale markets for regular-grade gasoline, FOB refineries or terminals: Okla., Mid-Western, W. Penna., Calif., N. Y. Harbor, Philadelphia, Jacksonville, Boston and Gulf Coast.

Pennsylvania Crude Runs

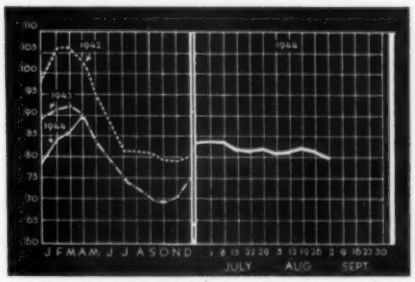
(Compiled by National Petroleum Assn. from reports of all companies refining Pennsylvania crude. Figures in bbls.)

DAILY AVERAGE

Week Ended Sept. 2, 1944	Week Ended Aug. 26, 1944	Week Ended Sept. 4, 1943
71,021	71,429	72,236

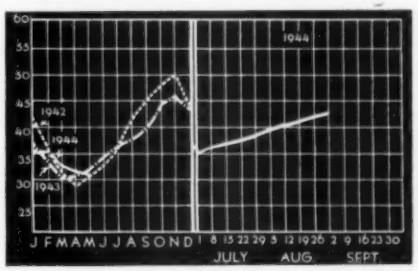
Gasoline Stocks

(Millions of Barrels)



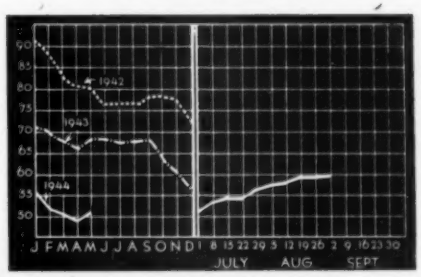
Gas Oil & Distillate Stocks

(Millions of Barrels)



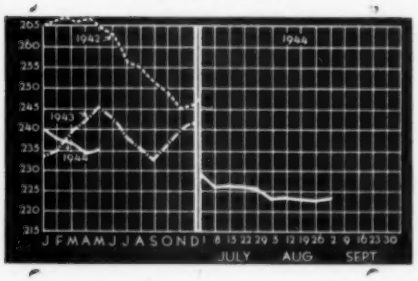
Residual Fuel Oil Stocks

(Millions of Barrels)



Crude Oil Stocks

(Millions of Barrels)



OIL PRICE SECTION ★ At Refineries and Terminals and by Tank Wagon

Prices herewith are reproduced from Platt's *OILGRAM* Daily Oil Price Service, associated with National Petroleum News, whose representatives in all *NPN-OILGRAM* offices devote their time exclusively to reporting oil industry prices everywhere.

Prices shown are actual sales prices, or quotations meaning sellers' general offers or posted prices; for current sales and shipment; for the business day or period stated; except Tank Wagon prices, prices are for bulk lots such as tank car and motor transport; barge or tanker cargo lot prices are identified; FOB refineries or terminals; in cents per gal. except where shown in bbls. of 42 gals.; ex all fees and taxes; for crude oil and its products lawfully produced and transported; reported as received by *OILGRAM* and National Petroleum News but not guaranteed; for subscribers' private use only and not for resale or distribution or publication. For further details of price conditions apply to any *NPN-OILGRAM* office or see back of any *OILGRAM* Price Service invoice.

For complete price service delivered daily from nearest *OILGRAM* publishing office, New York, Cleveland and Tulsa, Okla. address Platt's *OILGRAM*, 1212 W. 3rd St., Cleveland (13), Ohio. Annual subscription rate payable in advance $100 per year via train mail and $125 per year via air mail.

Refinery Prices

Gasoline —U. S. Motor (A S T M) except where otherwise specified.

Prices in Effect	Sept. 11	Sept. 5
OKLAHOMA		
76 oct. Ethyl...	6.75	6.75
70-74 oct.....	5.875	5.875
63-66 oct.....	5.625 (1)	5.625 (1)
60 oct. & below.	5.25	5.25
MID-WESTERN (Group 3 basis)		
76 oct. Ethyl...	6.75	6.75
70-74 oct.....	5.875	5.875
63-66 oct.....	5.625 (2)	5.625 (2)
60 oct. & below.	5.2 – 5.25	5.2 – 5.25
N. TEX. (For shpt. to Tex. & N. M. dest'ns.)		
76 oct. Ethyl...	7	7
70-74 oct.....	5.875	5.875
63-66 oct.....	5.625 (1)	5.625 (1)
60 oct. & below.	5.2 – 5.25	5.2 – 5.25
W. TEX. (For shpt. to Tex. & N. M. dest'ns.)		
76 oct. Ethyl...	7 (2)	7 (2)
70-74 oct.....	5.875	5.875
63-66 oct.....	5.75 (1)	5.75 (1)
60 oct. & below.	5.25	5.25
CENT. W. TEX. (Prices to truck transports)		
76 oct.....	7 (2)	7 (2)
70-74 oct.....	5.875 (2)	5.875 (2)
67-69 oct.....	....	....
62 oct. & below.	5.25 (2)	5.25 (2)
KANSAS (For Kansas destinations only)		
76 oct. Ethyl...	7.2 – 7.3	7.2 – 7.3
70-74 oct.....	6.2	6.2
63-66 oct.....	5.9 (2)	5.9 (2)
60 oct. & below.	5.5	5.5
ARK. (For shipment to Ark. & La.)		
76 oct. Ethyl...	7 (1)	7 (1)
70-74 oct.....	5.875 (1)	5.875 (1)
62 oct. "	....	....
60 oct. & below, unleaded.....	5.25 (1)	5.25 (1)
WESTERN PENNA. (Motor gasoline)		
Bradford-Warren:		
"Q" Gasoline Min. 70 Oct. (ASTM)	7.625-8.825(a)	7.625-8.825(a)
Other districts:		
"Q" Gasoline, Min. 70 Oct. (ASTM)	7.725– 8	7.725– 8

(a) Highs and lows for Schedule D area, in RPS 88 and outside Schedule D area, respectively.

Prices in Effect	Sept. 11	Sept. 5
CENTRAL MICHIGAN (FOB Central Mich. refinery group basis for shpt. within Mich.; shpts. may originate at plants outside Central group.)		
U.S. Motor: (Oct. ASTM):		
70-74 oct.....	7.875– 8.375	7.875– 8.375
67-69 oct.....	....	....
Str. run gasoline, excluding Detroit shpt.....	6	6
OHIO (S. O. Ohio quotations for statewide delivery and subject to exceptions for local price disturbances).		
70-74 oct.....	8.25	8.25
CALIFORNIA U.S. Motor:		
76 oct. (Ethyl)....	7.5 – 8.75	7.5 – 8.75
70-74 oct.....	6.5 – 7.75	6.5 – 7.75
65 oct. & below (3rd grade).....	6.5 – 6.75	6.5 – 6.75

Note: To conform with Article IV of MPR 88 as amended August 15 we are substituting 70-74 oct. ASTM for the old 72-74 oct. ASTM. We continue to include in this group Housebrand quotations.

Kerosine, & Gas Fuel Oils

OKLAHOMA		
41-43 grav. w.w...	4.375	4.375
42-44 grav. w.w...	4.5	4.5
Range oil.....	4	4
No. 1 p.w.....	3.875	3.875
No. 1 straw.....	....	....
No. 2 straw.....	3.625	3.625
No. 3 fuel.....	3.5 (2)	3.5 (2)
No. 6 fuel.....	$0.97 (1)	$0.97 (1)
U. G. I. Gas Oil..	....	....
14-16 fuel.....	$0.97 (2)	$0.97 (2)
MID-WESTERN (Group 3 basis)		
41-43 grav. w.w...	4.375	4.375
42-44 grav. w.w...	4.5	4.5
Range Oil.....	4 –4.1 (2)	4 –4.1 (2)
No. 1 p.w.....	3.875	3.875
No. 2 straw.....	3.625	3.625
No. 3.....	....	....
No. 5.....	....	....
No. 6.....	$0.97 (1)	$0.97 (1)
N. TEX. (For shpt. to Tex. & N. M. dest'ns.)		
41-43 grav. w.w...	4.375	4.375
42-44 grav. w.w...	4.5 (1)	4.5 (1)
No. 1 p.w.....	3.875 (1)	3.875 (1)
No. 6 fuel.....	$0.97 (2)	$0.97 (2)
AMARILLO, TEX. (For shpt. to W. Okla. & Tex. differential territory.)		
42-44 grav. w.w...	4.5 (1)	4.5 (1)
KANSAS (For Kansas destinations only).		
41-43 grav. w.w...	No Price	No Price
42-44 grav. w.w...	4.7	4.7 – 4.75
No. 1 p.w.....	4.1	4 – 4.1
No 6 fuel.....	$1.02	$1.02
ARK. (For shipment to Ark. and La.)		
41-43 grav. w.w...	....	....
42-44 w.w. kero...	4.5 (1)	4.5 (1)
No. 1.....	....	4 (1)
No. 2.....	3.625 (1)	3.625 (1)
No. 3 fuel.....	3.5 (1)	3.5 (1)
Tractor fuel, for shpt. to Ark. points only.....	5.125 (1)	5.125 (1)
Diesel fuel 52 & below.....	4 (1)	4 (1)
Diesel fuel 58 & above.....	4.25 (1)	4.25 (1)
WESTERN PENNA.		
Bradford-Warren:		
45 grav. w.w.....	6.55 – 8.05	6.55 – 8.05
46 grav. w.w.....	6.675 (1)	6.675 (1)
No. 1 fuel.....	6.55-8.05(2&b)	6.55-8.05(2&b)
No. 2 "	6.125-7.625(2&b)	6.125-7.625(2&b)
No. 3 "	6.25-7.75(1&b)	6.25-7.75(1&b)
36-40 gravity.....	6.625-6.75(2)	6.625-6.75(2)

(b) Highs and lows for Schedule D area, in RPS 88 and outside Schedule D area, respectively.

Other districts:		
45 grav. w.w.....	7.25 – 7.425	7.25 – 7.625
46 grav. w.w.....	7.25 – 7.425	7.25 – 7.425
47 grav. w.w.....	7.375– 7.775	7.375– 7.875
No. 1 fuel.....	6.875– 7.175	6.875– 7.175
No. 2 "	6.75 – 7.175	6.75 – 7.375
No. 3 "	6.75 – 7.175	6.75 – 7.375
36-40 grav. Pittsburgh dist. prices excluded.....	6.625– 7.175	6.625– 7.375
CENTRAL MICHIGAN (FOB Central Mich. refinery group basis for shpt. within Mich.; shpts. may originate at plants outside Central group.)		
47-49 gravity w.w.	5.8 – 6	5.8 – 6
P.W. Distillate...	5.5	5.5
No. 3 gas oil, Straw	5	5
U.G.I. gas oil.....	4.5 (2)	4.5 (2)
Fuel Oils (*Vis. at* 100).		
300-500 Vis.....	....	....
100-300 Vis.....	4.5	4.5
OHIO (S. O. quotations for statewide delivery) Kerosine.....	7	7

Prices in Effect	Sept. 11	Sept. 5
CALIFORNIA		
40-43 grav. w.w...	5 – 7	5 – 7
San Joaquin Valley:		
Heavy fuel.....	$1.10 (2)	$1.10 (2)
Light fuel.....	$1.20 (2)	$1.20 (2)
Diesel fuel.....	4 (2)	4 (2)
Stove dist.....	5 (2)	5 (2)
Los Angeles:		
Heavy fuel.....	$1.10 (2)	$1.10 (2)
Light fuel.....	$1.20 (2)	$1.20 (2)
Diesel fuel.....	4 (2)	4 (2)
Stove dist.....	5 (1)	5 (1)
San Francisco:		
Heavy fuel.....	$1.15 (1)	$1.15 (1)
Light fuel.....	$1.25 (1)	$1.25 (1)
Diesel fuel.....	4.5 (1)	4.5 (1)
Stove dist.....	5.5 (1)	5.5 (1)

NOTE: All above heavy fuels meet Pacific specification 400; light fuel, spec. 300; Diesel fuels, spec. 200; and stove distillate, spec. 100.

Lubricating Oils

Prices in Effect	Sept. 11	Sept. 5
WESTERN PENNA.		

Prices are for sales made, or offers reliably reported, to jobbers & compounders only.

Viscous Neutrals—*No. 3 col. Vis. at* 70°*F.*

200 Vis. (180 at 100°) 420-425 fl.		
0 p.t.....	38 (1)	38 (1)
10 p.t.....	37 (1)	37 (1)
15 p.t.....	36 (1)	36 (1)
25 p.t.....	28-33	28-33
150 Vis. (143 at 100°) 400-405 fl.		
0 p.t.....	36 (1)	36 (1)
10 p.t.....	35 (1)	35 (1)
15 p.t.....	34 (1)	34 (1)
25 p.t.....	26-31	26-31

NOTE: Limited quantity neutrals available to regular trade.

Cylinder Stocks:

Brt. stk., 145-155 *vis. at* 210°, 540-550 fl., *No.* 8 *col.*

10 p.t.....	30.5 (1)	30.5 (1)
15 p.t.....	29.5 (1)	29.5 (1)
25 p.t.....	25	25
600 S.R. filterable	15	15
650 S.R.....	15.5	15.5
600 fl.....	16	16
630 fl.....	17	17

MID-CONTINENT (F. o. b. Tulsa)

Neutral Oils (*Vis. at* 100° *F. to* 10 *P.P.*)

Pale Oils:		
Vis. Color		
60-85—No. 2....	7.5	7.5
86-110—No. 2...	7.5 – 8.5	7.5 – 8.5
150—No. 3.....	11 –11.5	11 –11.5
180—No. 3.....	11.5 –15	11.5–15
200—No. 3.....	12 –15	12 –15
250—No. 3.....	14 –16.5	14 –16.5
280—No. 3.....	15 –17	15 –17
300—No. 3.....	16 –18	16 –18
Red Oils:		
180—No. 5.....	11.5 (1)	11.5 (1)
200—No. 5.....	12 (1)	12 (1)
280—No. 5.....	No Price	No Price
300—No. 5.....	16-17.5(2)	16-17.5 (2)
Bright Stock—*Vis. at* 210°		
200 Vis. D.....	27 (1)	27 (1)
150-160 Vis. D:		
0 to 10 p.p.....	23	23
10 to 25 p.p.....	22.5–23	22.5–23
25 to 40 p.p.....	23 (1)	23 (1)
150-160 Vis. E....	22 (1)	22 (1)
120 Vis. D:		
0 to 10 p.p.....	22 (2)	22 (2)
600 S.R. Dark Green.....	8.5 (1)	8.5 (1)
600 S.R. Olive Green.....	10-11 (2)	10-11 (2)
631 S.R.....	....	....
Black Oil.....	....	....

NOTE: Discounts of 0.5c to 1c on bright stock and 0.5c to 2c allowed for neutrals, 10 car lots, and to "meet competition." Brokers offering at greater discounts.

SOUTH TEXAS (Neutral Oils)

Pale Oils (*Vis. at* 100°*F.*)

Vis. Color		
100 No. 1½-2½.	6.5	6.5
200 No. 2-3.....	8.75	8.75
300 No. 2-3.....	9.25	9.25
500 No. 2½-3½.	10	10
750 No. 3-4.....	10.25	10.25
1200 No. 3-4.....	10.375	10.375
2000 No. 4.....	10.5	10.5

(Continued on next page)

NOTE—Parenthetical figures after prices indicate number of companies quoting when less than three companies are quoting.

NOTICE—Owing to great demand, refiners generally limit quotations to regular customers and refuse bids, though higher, from others. Refiners' prices and sales shown; bids reported in market leads.

Refinery Prices (Continued)

Prices in Effect	Sept. 11	Sept. 5
Red Oils:		
100 No. 5-6	6.5 (2)	6.5 (2)
200 No. 5-6	8.75	8.75
300 No. 5-6	9.25	9.25
500 No. 5-6	10	10
750 No. 5-6	10.25	10.25
1200 No. 5-6	10.375	10.375
2000 No. 5-6	10.5	10.5

CHICAGO (From Mid-Continent p.l. crude.) Neutral oils *vis. at* 100° *F. to* 10 *p.p.*

Pale Oils Vis. Color		
60-85—No. 2	9 (1)	9 (1)
86-110—No. 2	9.25 (1)	9.25 (1)
150—No. 3	12.5 (1)	12.5 (1)
180—No. 3	13 (1)	13 (1)
200—No. 3	13 (1)	13 (1)
250—No. 3	14 (1)	14 (1)
Red Oils:		
180—No. 5	13 (1)	13 (1)
200—No. 5	13 (1)	13 (1)
250—No. 5	14 (1)	14 (1)
280—No. 5	15 (1)	15 (1)
300—No. 5	15.5 (1)	15.5 (1)

Note: Viscous oils, 15 to 30 p.p. are quoted 0.5c lower; 60-85 and 86-110 No. 2 non-viscous oils, 15 to 30 p.p., 0.25c lower.

Unfiltered Steam Refined (*Viscosity at* 210°)		
140	11.5 (1)	11.5 (1)
160	12.5 (1)	12.5 (1)
200	13.5 (1)	13.5 (1)
Bright stocks, 160 *vis. at* 210 *No.* 8 *color:*		
0 to 10 p.p.	24 (1)	24 (1)
15 to 25 p.p.	23.5 (1)	23.5 (1)
30 to 40 p.p.	21.5 (1)	21.5 (1)
E filtered Cyl. Stock	15.5 (1)	15.5 (1)

Note: To obtain prices delivered in Chicago add 0.25c per gal.

Natural Gasoline

(Group 3 & Breckenridge prices are to blenders on freight basis shown below. Shipments may originate in any Mid-Continent manufacturing district.

FOB GROUP 3

Grade 26-70 .... 4.75 (Sales) 4.75 (Sales)

FOB BRECKENRIDGE

Grade 26-70 .... 4.375 (Quotes) 4.375 (Quotes)

CALIFORNIA (FOB plants in Los Angeles basin)

21 pound vapor pressure for blending .... 4.75 – 5.375 4.75 – 5.375

Naphtha and Solvent

(*FOB Group* 3)

Stoddard solvent	6.625	6.625
Cleaners' naphtha	7.125	7.125
V.M.&P. naphtha	7.1 – 7.125	7.1 – 7.125
Mineral spirits	6.1 – 6.125	6.1 – 6.125
Rubber solvent	7.1 – 7.125	7.1 – 7.125
Lacquer diluent	7.375– 8.125	7.375– 8.125
Benzol Diluent	7.875– 8.625	7.875– 8.625

WESTERN PENNA.

Bradford-Warren District:		
Stoddard Solvent	7.5 (1)	7.5 (1)
Other Districts:		
Untreated naphtha	7 –7.25 (2)	7 –7.25 (2)
Stoddard solvent	7.25 –7.5 (2)	7.25 –7.5 (2)

OHIO (S. O. quotations for statewide delivery): V.M.&P. naphtha. D.C. naphtha, Varnolene &

Sohio solvent	10	10
Rubber solvent	9	9

Wax

WESTERN PENNA. (Bbls. C.L.)

White Crude Scale:		
122-124 A.m.p.	4.25 (2)	4.25 (2)
124-126 A.m.p.	4.25	4.25

OKLAHOMA (C.L. FOB Refinery)

Semi-refined:		
128 AMP min., white, 50 kilo bags	No Price	No Price
132-134 AMP, bbls.	5.25 (1)	5.25 (1)

CHICAGO (FOB Chicago district refinery of one refiner, in bags, carloads. Carloads, slabs loose, 0.4c less. Melting points are EMP (ASTM) methods; add 3° to convert into AMP.)

Fully refined:		
122-124 (bags only)	5.6	5.6
125-127	6	6
127-129	6.25	6.25
130-132	6.55	6.55
132-134	6.8	6.8
135-137	7.55	7.55

Petrolatums

WESTERN PENNA. (Bbls., carloads; tank cars, 0.5c per lb. less.)

Snow White	6.125– 7.25	6.125– 7.25
Lily White	5.375– 6.25	5.375– 6.25
Cream White	4.375– 5.5	4.375– 5.5
Light Amber	3.375– 4	3.375– 4
Amber	3.125– 3.75	3.125– 3.75
Red	3 – 3.5	3 – 3.5

Tank Wagon Prices

Commercial or consumer tank car, tank wagon, dealer, and service station prices for gasoline **do not include taxes**; *they do, however, include inspection fees as shown in general footnote. Gasoline taxes, shown in separate column, include 1.5c federal, and state taxes; also city and county taxes as indicated in footnotes. Kerosine tank wagon prices also do not include taxes; kerosine taxes where levied are indicated in footnotes. Dealer discounts are shown in footnotes. These prices in effect Sept.* 11, 1944 *as posted by principal marketing companies at their headquarters offices, but subject to later correction*

S. O. N. J. — **Esso** (*Regular Grade*)

	Consumer Tank Wagon	Dealer T.W.	Gasoline Taxes	Kerosine T.W.
*Atlantic City, N. J.	10.2	10.7	4.5	10
*Newark, N. J.	10.2	10.7	4.5	10
Annapolis, Md.	10.55	11.05	5.5	....
Baltimore, Md.	9.95	10.45	5.5	10.8
Cumberland, Md.	11.35	11.85	5.5	12.3
Washington, D. C.	10.2	10.7	4.5	11.3
Danville, Va.	11.65	12.15	6.5	12.55
Norfolk, Va.	10.45	10.95	6.5	12.3
Petersburg, Va.	10.75	11.25	6.5	13.3
Richmond, Va.	10.75	11.25	6.5	13.3
Roanoke, Va.	11.95	12.45	6.5	12.8
Charleston, W. Va.	12.25	12.75	6.5	13.6
Parkersburg, W. Va.	11.55	12.05	6.5	13.3
Wheeling, W. Va.	11.55	12.05	6.5	13.9
Charlotte, N. C.	12.1	12.6	7.5	11.6
Hickory, N. C.	12.65	13.15	7.5	12.6
Mt. Airy, N. C.	12.5	13.0	7.5	11.8
Raleigh, N. C.	11.85	12.35	7.5	12.6
Salisbury, N. C.	12.15	12.65	7.5	13.0
Charleston, S. C.	10.95	11.45	7.5	....
Columbia, S. C.	11.8	12.3	7.5	....
Spartanburg, S. C.	12.5	13.0	7.5	....

	Mineral Spirits T.W.	V.M.&P. T.W.
Newark, N. J.	13	14.5
Baltimore, Md.	15.5	....
Washington, D. C.	15.5	....

Fuel Oils—T.W.	No. 1	No. 2	No. 3
Atlantic City, N. J.	10	9	9
Newark	10	9	9
Annapolis, Md.	..	..	..
Baltimore	9.8	9	9
Washington, D. C.	10.3	9.4	9.4
Norfolk, Va.	10	8.8	8.8
Petersburg	10.3	9	..
Richmond	10.3	9	9
Charlotte, N. C.	10.6	10.4	..
Hickory, N. C.	..	10	..
Raleigh	11.6	10.1	..
Charleston, S. C.	..	9	..
Columbia	..	10	..
Spartanburg	..	10.8	..

*Effective Aug. 5, '42 minimum retail resale price of 14.2c posted thru New Jersey.

Discounts:

Esso gasoline—to undivided dealers, 0.5c off dealer t.w.

Kerosine—1c off t.w. price for 25 gals. or more, under contract thru territory (Baltimore city contract not necessary) except no discount in state of New Jersey.

Naphtha—To buyers taking following quantities at one time: Newark, 2c per gal. on 200 gals. or more, less than 200 gals. 0.5c higher price; Baltimore, 2c off on 25 to 100 gals. and 3c on over 100 gals.; Washington, 2c off to contract buyers.

Notice

These prices include inspection fees on both gasoline and kerosine unless otherwise specified per gallon as follows:

Ala. 1/40c on gasoline; Ark. 1/20c; Fl. 1/8c; Ill. 3/100c; Ind. 1/5c in lots of 25 bbls. or less, 2/25c in lots of more than 25 bbls.; Kans. 1/50c; La. 1/32c; Minn. 7/200c; Miss. 1/50c; Neb. 3/100c; Nev. 1/20c; N. C. 1/4c; N. Da. 1/20c; Okla. 2/25c; S. Car. 1/8c; S. Da. 1/20c; Tenn. 2/5c; and Wisc. 3/100c.

Kerosine inspection fees only: Ala. 1/2c; Fla. 1/8c; Iowa 3/50c; Mich. 1/5c per gal.

CONT'L OIL

	†Tank Wagon	Deband Wagon	Gasoline Taxes	Kerosine T.W.
	Conoco Bronz-a-z	De- (*3rd Grade*)		
Denver, Col.	10	9	5.5	10
Grand Junc., Col.	12.5	11.5	5.5	12.5
Pueblo, Col.	9.5	8.5	5.5	9.5
Casper, Wyo.	11.5	10.5	5.5	12
Cheyenne, Wyo.	10	9	5.5	9
Billings, Mont.	12	11	6.5	12.5
Butte, Mont.	11.5	10.5	6.5	13.5
Great Falls, Mont.	12	11	6.5	12.5
Helena, Mont.	12	11	6.5	13
Salt Lake City, Utah	13.5	12.5	5.5	14.5
Boise, Ida.	13.6	12.6	6.5	16.5
Twin Falls, Ida.	14.6	13.6	6.5	17
Albuquerque, N. M.	10.5	9.5	*7	9.5
Roswell, N. M.	10	9	*7	7
Santa Fe, N. M.	10.5	9.5	*7.5	10
Ft. Smith, Ark.	9	6.25	*7	8
Texarkana, Ark.	9	7.5	*5.5	7
Muskogee, Okla.	7.75	6.75	7	8
Oklahoma City, Okla.	8	7	7	8
Tulsa, Okla.	8	7	7	8

*Taxes: In gasoline tax column are included these city taxes—Albuquerque, & Roswell, 0.5c, Santa Fe, 1c. Texas 4c state tax applies within city limits of Texarkana, Ark.; Okla., 5.5c state applies within city limits of Ft. Smith, Ark.

†To Consumers & Dealers.

NOTE: Current selling price—where this is lower than maximum price it is because of local competition. It is the actual selling price and is subject to revision due to delays in receiving information from the field.

S. O. NEB.

	(*Regular Grade*) T.W.	Dealer	Gasoline Taxes	Kerosine T.W.
Omaha	11.4	9.6	6.5	10.1
McCook	12.0	10.1	6.5	10.5
Norfolk	11.9	10.4	6.5	10.6
North Platte	12.2	10.6	6.5	11
Scottsbluff	12.9	10.2	6.5	10.5

S. O. CAL.

	Standard Posted Net Tank Truck	Standard Posted Retail	Flight Posted Net Tank Truck	Flight Posted Retail	Gasoline Taxes
	Standard Gasoline (*Regular Grade*)		Flight Gasoline (*Third Grade*)		
San Francisco, Cal.	10	14	9	12	4.5
Los Angeles, Cal.	9.5	13.5	8.5	11.5	4.5
Fresno, Cal.	11	15	10	13	4.5
Phoenix, Ariz.	12	16	10	13	6.5
Reno, Nev.	12	16	11	14	5.5
Portland, Ore.	10.5	14.5	9.5	12.5	6.5
Seattle, Wash.	10.5	14.5	9.5	12.5	6.5
Spokane, Wash.	12.5	16.5	11.5	14.5	6.5
Tacoma, Wash.	10.5	14.5	9.5	12.5	6.5

Std. Aviation 73

	Posted Net Tank Truck	Gasoline Taxes	Kerosine Tank Truck
San Francisco, Cal.	12.5	4.5	11.5
Los Angeles, Cal.	12	4.5	10
Fresno, Cal.	13.5	4.5	12.5
Phoenix, Ariz.	14.5	6.5	12.5
Reno, Nev.	14.5	5.5	13.5
Portland, Ore.	13	6.5	13.8
Seattle, Wash.	13	6.5	13.8
Spokane, Wash.	16	6.5	16.8
Tacoma, Wash.	13	6.5	13.8

Resale & Commercial: T.C. deliveries 0.25c per gal. off posted net tank truck.

Commercial: Retail deliveries, and/or tank truck deliveries of less than 40 gals., 4c per gal. above posted net tank truck price for Standard Aviation and Standard Gasoline, and 3c per gal. above posted net tank truck for Flight Gasoline, except single deliveries of less than 40 gals. to Marine trade only, which are billed at posted net tank truck price.

TEXAS CO.

	Gasoline—Dealer T.W. Fire-Chief (*Regular*)	Indian (*3rd Grade*)	Gasoline Taxes
Dallas, Tex.	7.5	6.5	5.5
Ft. Worth, Tex.	7.5	6.5	5.5
Wichita Falls, Tex.	8.5	7.5	5.5
Amarillo, Tex.	8.5	7.5	5.5
Tyler, Tex.	8.5	7.5	5.5
El Paso, Tex.	11	10.5	5.5
San Angelo, Tex.	8.5	7.5	5.5
Waco, Tex.	8.5*	7*	5.5
Austin, Tex.	8.5	7.5	5.5
Houston, Tex.	8.5	7.5	5.5
San Antonio, Tex.	8.5	7.5	5.5
Port Arthur, Tex.	8.5	7.5	5.5

*Less 1c temporary allowance to all dealers.

(Continued on next page)

Tank Wagon Prices—Continued

S. O. IND.

	Red Crown Blue Crown Red Dealer Prices (*Regular Grade*) Cons. T.W.	Red Crown (*Third Grade*)	Blue Crown (*Third Grade*)	Gasoline Taxes	Kerosine T.W.
Chicago, Ill.	11.6	9.6	9.1	4.5	10.6
Decatur, Ill.	11.6	9.6	8.7	4.5	10.3
Joliet, Ill.	11.9	10.3	9.2	4.5	10.6
Peoria, Ill.	11.7	9.9	9.7	4.5	10.4
Indianapolis, Ind.	11.6	10.1	9.6	5.5	10.1
Evansville, Ind.	11.4	9.9	8.6	5.5	9.9
South Bend, Ind.	12	10.5	10	5.5	10.5
Detroit, Mich.	11.4	9.9	9.4	4.5	10
Grand Rapids, Mich.	11.4	9.9	9.4	4.5	9.9
Saginaw, Mich.	11.4	9.9	9.4	4.5	9.9
Green Bay, Wis.	12.2	10.7	10.2	5.5	10.9
Milwaukee, Wis.	12.1	10.6	10.1	5.5	10.8
La Crosse, Wis.	11.9	10.4	9.9	5.5	10.6
Minneapolis - St. Paul.	11.9	10.4	9.9	5.5	10.6
Duluth, Minn.	12.2	10.7	10.2	5.5	10.9
Mankato, Minn.	11.9	10.4	9.9	5.5	10.6
Des Moines, Ia.	11.4	9.9	9.4	4.5	*10.1
Mason City, Ia.	11.7	10.2	9.7	4.5	*10.4
St. Louis, Mo.	11.0	9.5	9.3	*4.5	10.1
Kansas City, Mo.	11.0	9.5	8.6	*4.5	9.7
St. Joseph, Mo.	11.2	9.7	9.2	*4.5	9.9
Fargo, N. D.	12.9	11.4	10.9	5.5	11.6
Huron, S. D.	12.3	10.8	10.3	5.5	11
Wichita, Kans.	10.3	8.8	7.2	4.5	9.0

Stanavo Aviation 73 Octane
Withdrawn Jan. 1, 1944.

(Prices are base prices before discounts)

	Oleum Spirits	V.M.&P. Naphtha	Stanisol	*Taxes
Chicago	13.5	13.8	12.8	4.5
Detroit	15.8	15	16.3	4.5
K. C., Mo.	13.3	14.3	13.8	1.5
St. Louis, Mo.	13.7	14.7	13.2	1.5
Milwaukee	14.4	15.4	14.9	5.5
Minneap'ls	14.2	15.2	13.5	5.5

Fuel Oils T.W.
Chicago

	Standard Heater Oil
1-99 gals.	9.3
100-149 gals.	8.3
150 gals. & over	7.8

	Stanolex Furnace Oil
1-99 gals.	8.8
100-149 gals.	7.8
150-399 gals.	7.8
400 gals. & over	7.3

	Stanolex Fuel A
1-749 gals.	6.5
750 gals. & over	5.75

	Stanolex Fuel C
1-749 gals.	6.0
750 gals. & over	5.25

Other Points Indianapolis	Stanolex Furnace Oil
1-99 gals.	9.0
100 gals. & over	8.0
Detroit	
1-99 gals.	8.7
100 gals. & over	7.7
Milwaukee	
1-99 gals.	9.0
100 gals. & over	8.0
Minneapolis	
1-99 gals.	9.1
100 gals. & over	8.1
St. Louis	
1-99 gals.	8.4
100 gals. & over	7.4
Kansas City	
1-99 gals.	8.1
100 gals. & over	7.1

*Taxes: In gasoline tax column are included these city taxes—Kansas City, St. Joseph and St. Louis, 1c. Iowa kerosine prices are ex 3c state tax. In naphtha tax column are included 1.5c federal tax and state taxes.

State sales, occupation, consumer and use taxes to be added when applicable.

HUMBLE OIL

Humble Motor Fuel (*Regular Grade*)

	Thriftane Humble *Tank Wagon	Thriftane Humble Retail	(*Third Grade*) Thriftane *Tank Wagon	Thriftane Retail	Gasoline Taxes
Dallas, Tex.	7.5	10.5	6.5	10.5	5.5
Ft. Worth, Tex.	6.5	9.5	6	7.5	5.5
Houston, Tex.	8.5	12.5	7.5	10.5	5.5
San Ant., Tex.	8.5	12.5	7.5	10.5	5.5

	Kerosine *Tank Wagon	Kerosine Retail
Dallas, Tex.	7	10
Ft. Worth, Tex.	7	11
Houston, Tex.	8	11
San Antonio, Tex.	7	10

*To all classes of dealers & consumers

S. O. OHIO

***Sohio X-70 Gasoline (*Regular Grade*)**

	Consumer T.W.	**Resellers	‡S.S.	Gasoline Taxes	†Kerosine T.W.
Ohio, Statewide	12	10	13.5	5.5	9.3
Akron	12	9.5	12.5	5.5	9.3
Canton	12	9.5	12.5	5.5	9.3
Cincinnati	12	9.5	12.5	5.5	9.3
Cleveland	12	9.5	12.5	5.5	9.3
Columbus	12	9.5	12.5	5.5	9.3
Dayton	12	9.5	12.5	5.5	9.3
Lima	12	9.5	12.5	5.5	9.3
Mansfield	12	9.5	12.5	5.5	9.3
Marion	12	9.0	12.0	5.5	9.3
Portsmouth	12	9.5	12.5	5.5	9.3
Toledo	12	9.5	12.5	5.5	9.3
Youngstown	12	9.5	12.5	5.5	9.3
Zanesville	12	9.5	12.5	5.5	9.3

Aviation Gasoline—Statewide

	Consumer T.W.	Gasoline Taxes
Sohio Aviation Gasoline clear Spec. AN-F-22	14.5	5.5
Esso Ethyl Aviation 73 Oct.	15.5	5.5
Esso Ethyl Aviation 80 Oct.	16.5	5.5
Esso Ethyl Aviation 87 Oct.	17.5	5.5
Esso Ethyl Aviation 91 Oct.	17.5	5.5
Esso Ethyl Aviation 100 Oct.	24.5	5.5

	†Naphtha—T.W. Statewide	Lucas County
S. R. Solvent	13.5	13.5
D. C. Naphtha	14.5	14.25
V.M.&P. Naphtha	14.5	14.25
Varnolene	14.5	14.25
Sohio Solvent	14.5	14.25

Fuel Oils—T.W.	No. 1	No. 2	No. 3	No. 4
Ohio, Statewide	8.3	8.3	7.8	*7.55

*Renown (third-grade) prices are same as X-70 unless otherwise noted.

**Except authorized agents.

†Kerosine prices are ex 1c state tax. Naphtha prices are ex 1.5c federal & 4c state tax.

‡Prices at company-operated stations.

††Statewide prices are subject to exceptions other than those shown.

Discounts:

Esso aviation—on contract to hangar operators and resellers, 2c off consumer t.w.

*For Cleveland area only. Full compartment hose dumps.

Fuel oils—Statewide prices are for t.w. & drum deliveries of 50 gals. or more; prices for deliveries of less than 50 gals. are 0.5c higher.

Naphthas—to contract consumers off t.w. prices—Statewide: 300 to 999 gals., 0.5c; 1000 to 2499 gals., 0.75c; 2500 to 4999 gals., 1c; 5000 or more gals., 1.5c. Lucas County: Less than 50 gals., tank wagon price, 50 to 249 gals., 0.5c; 250 to 499 gals., 1c; 500 gals. or over, 1.5c.

Canada

PRICES OF IMPERIAL OIL, LTD.

Per Imperial Gallon, which is 1.2 U. S. Gallons

IMPERIAL OIL

3-Star Imperial Gasoline (*Regular Grade*)

	†Gasoline T.W.	*Gasoline Taxes	Kerosine T.W.
Hamilton, Ont.	17.5	11	18
Toronto, Ont.	17.5	11	18
Brandon, Man.	21	10	23
Winnipeg, Man.	20.5	10	22.5
Regina, Sask.	18	10	20
Saskatoon, Sask.	20.8	10	22.8
Edmonton, Alta.	18.9	10	20.9
Calgary, Alta.	16	10	18
Vancouver, B. C.	15	10	24
Montreal, Que.	17	11	17.5
St. John, N. B.	16.5	13	19
Halifax, N. S.	16.5	13	19

*Includes 3c Federal, and Provincial taxes.

To divided & undivided dealers.
Absorption Gasoline—No. 26 R.V.P.—$2.28

ATLANTIC REFINING

Atlantic White Flash (*Regular Grade*)

	Commercial T.W.	Dealer T.W.	Gasoline Taxes	Kerosine T.W.
Philadelphia, Pa.	10.2	10.7	5.5	12.25
Pittsburgh	10.1(a)	10.6(a)	5.5	12.1(a)
Allentown	10.7	11.2	5.5	12.6
Erie	10.7	11.2	5.5	12.6
Scranton	10.7	11.2	5.5	12.6
Altoona	10.7	11.2	5.5	12.6
Emporium	10.1(a)	10.6(a)	5.5	12.1(a)
Indiana	10.7	11.2	5.5	12.6
Uniontown	10.1(a)	10.6(a)	5.5	12.1(a)
Harrisburg	10.7	11.2	5.5	12.6
Williamsport	10.7	11.2	5.5	12.6
Dover, Del.	....	11.2	5.5	12.6
Wilmington, Del.	....	10.7	5.5	12.1
Boston, Mass.	....	10.9	4.5	....
Springfield, Mass.	....	11.8	4.5	....
Worcester, Mass.	....	11.5	4.5	....
Fall River, Mass.	....	11	4.5	....
Hartford, Conn.	....	11.6	4.5	....
New Haven, Conn	....	11	4.5	....
Providence, R. I.	....	11	4.5	....
Atlantic City, N. J.	....	10.7	4.5	10
Camden, N. J.	....	10.7	4.5	10
Trenton, N. J.	....	10.7	4.5	10
Annapolis, Md.	....	11.05	5.5	10.8
Baltimore, Md.	....	10.45	5.5	9.8
Hagerstown, Md.	....	11.55	5.5	10.3
Richmond, Va.	....	11.25	6.5	12.3
Wilmington, N. C.	....	11.15(a)	7.5	11.6(a)
Brunswick, Ga.	....	10.1(a)	7.5	10.6(a)
Jacksonville, Fla.	....	10.1(a)	8.5	11.6(a)

(a) Effective Sept. 1, 1944.

	Mineral Spirits T.W.†	V.M.&P. T.W.†
Philadelphia, Pa.	11	12.5
Lancaster, Pa.	12	13.5
Pittsburgh, Pa.	12.5	13.5

	Fuel Oils—T.W. 1	2	3	5	6*
Phila., Pa.	10.1	9	9	5.76	5.04*
Allentown, Pa.	10.6	9.3	9.3	....	....
Wilmington, Del.	10.1	9	9	....	....
Springfield, Mass.	10.2	9.4	9.4	....	....
Worcester, Mass.	10.2	9.3	9.3	....	....
Hartford, Conn.	10.5	9.2	9.2	....	....

‡Does not include 1c Georgia kerosine tax.

†Mineral Spirits prices also apply to Stoddard Solvent; V.M.&P. prices also apply to Light Cleaners Naphtha.

Discounts:

Gasoline—to undivided dealers, 0.5c off dealer t.w. except Georgia & Florida dealer t.w. and undivided dealer t.w. prices are same.

Kerosine—Thru Penna. & Delaware, 2c off t.w. price on t.w. deliveries of 25 gals. or more at one time.

*Residual fuel 13.0-15.9 gravity effective 10/17/43.

S. O. KY.

Crown Gasoline (*Regular*) Standard (*Third Grade*)

	†Net Crown	Gasoline Taxes	Kerosine T.W.
Covington, Ky.	9.5	6.5	9.3
Lexington, Ky.	10.5	6.5	9.3
Louisville, Ky.	10	6.5	8.8
Paducah, Ky.	10	6.5	8.8
Jackson, Miss.	10	7.5	*9
Vicksburg, Miss.	9.5	7.5	*8.5
Birmingham, Ala.	10	*8.5	9
Mobile, Ala.	9	*9.5	8.5
Montgomery, Ala.	10	*9.5	*10
Atlanta, Ga.	11.4	7.5	*12.1
Augusta, Ga.	11.4	7.5	*11.6
Macon, Ga.	11.4	7.5	*12.1
Savannah, Ga.	10.4	7.5	*11.1
Jacksonville, Fla.	10.4	8.5	10.1
Miami, Fla.	10.4	8.5	10.1
Pensacola, Fla.	9	*9.5	8
Tampa, Fla.	10.4	8.5	10.1

*Taxes: In tax column are included these city and county gasoline taxes: Mobile, 2c city; Birmingham, 1c city; Montgomery, 1c city and 1c county; Pensacola, 1c city. Georgia and Montgomery, Ala. have 1c kerosine tax, Mississippi 0.5c, included in above prices.

†Consumer t.w. prices are same as net dealer prices.

S. O. LA.

Esso Gasoline (*Regular Grade*)

	Consumer Tank Wagon	Dealer T.W.	Gasoline Taxes	Kerosine T.W.
New Orleans, La.	8.75	9.25	8.5	*9
Baton Rouge, La.	8.75	9.25	8.5	*9.5
Alexandria, La.	8.75	9.25	8.5	*9.5
Lafayette, La.	9	9.5	8.5	*9
Lake Charles, La.	9	9.5	8.5	*11
Shreveport, La.	8.5	9	8.5	*8
Knoxville, Tenn.	10.5	11	8.5	12.5
Memphis, Tenn.	8.90	9.40	8.5	10.5
Chattanooga, Tenn.	10.5	11	8.5	11
Nashville, Tenn.	10.5	11	8.5	10
Bristol, Tenn.	10.95	11.45	8.5	13.1
Little Rock, Ark.	9.5	10	8	10

*Louisiana kerosine prices are ex 1c state tax.

Discounts:

Esso Gasoline—To undivided dealers, 0.5c off dealer t.w.

(Continued on next page)

Atlantic Coast

(Prices are of refiners, FOB their refineries & their tanker terminals, & of tanker terminal operators FOB their terminals)—Prices in Effect Sept. 11.

Pacific Export

In Ship's Bunkers, or deep tank lots:

Prices in Effect	Sept. 11	Sept. 5
Diesel Fuel, Pac. Spec. 200	$1.45	$1.45
Grade C fuel, Pac. Spec. 400	$1.10	$1.10

Seaboard Export Coastwise Prices

District	MOTOR GASOLINE 72 Oct. (ASTM)	70-74 oct. (ASTM)	KEROSINE and/or NO. 1 FUEL	FUEL OILS No. 2	No. 3	No. 5	No. 6
N. Y. Harb.	Not made	9.075	7.1	6.7	6.7	$1.85	$1.77
N. Y. Harb., barges	"	8.975	7	6.6	6.6	....	....
Albany	"	9.175	7.3	6.8	6.8 (2)	....	$1.97 (1)
Philadelphia	"	9.075	7.2	6.7	6.7	$1.98	$1.77
Baltimore	"	8.825	7.2	6.7	6.7	$1.85 (1)	$1.77
Norfolk	"	8.575– 8.825	7.1	6.7	6.7 (1)	$1.85 (1)	$1.77
Wilmington, N. C.	"	8.175– 8.625	6.75 – 7.05	6.7	....	....	....
Charleston	"	8.175– 8.575	6.9 – 7.2	6.7 (2)	....	$1.80 (1)	$1.72 (2)
Savannah	"	7.845– 8.275	6.55 – 7.05	6.25 (1)	....	....	$1.72 (1)
Jacksonville	"	7.845– 8.275	6.55–7.05 (2)	6.25	....	....	$1.72
Miami	"	7.845-8.275 (2)	6.55 – 7.05	6.25 (1)	....	....	....
Tampa	"	7.845– 8.275	6.55 – 7.05	6.25	....	....	$1.62
Pensacola	"	6.875–7.075 (1)	4.8 (1)	....	....	....	....
Mobile	"	6.62 – 7.075	4.75 (2)	....	....	....	....
New Orleans	"	6.125-6.375(2)	4.25 – 4.75	3.75 (2)	....	$1.27 (1)	$0.97
Portland	"	9.375	7.3	6.8	6.8 (2)	....	$1.77
Boston	"	9.275	7.2	6.7	6.7 (2)	$1.95 (2&b)	$1.77
Providence	"	9.275	7.2	6.7	6.7 (2)	$1.90 (1)	$1.77

NOTE: To conform with Article IV of MPR 88 as amended Aug. 15 we are substituting 70-74 oct. ASTM for the old 72-74 oct. ASTM. We continue to include in this group, Housebrand quotations.

Tank Wagon Prices (Continued)

SOCONY VACUUM

	Socony Mobilgas (*Regular Grade*) Com. Cons. T.W.	Undiv. Dlr. T.W.	Gasoline Taxes
New York City			
Manhattan & Bronx	10.1	10.6	*5.5
Kings & Queens	10.1	10.6	*5.5
Richmond	9.7	10.2	*5.5
Albany, N. Y.	9.9	10.4	5.5
Binghamton, N. Y.	11	11.5	5.5
Buffalo	10.2	10.7	5.5
Jamestown, N. Y.	10.4	10.9	5.5
Mt. Vernon, N. Y.	10.1	10.6	5.5
Plattsburg, N. Y.	11	11.5	5.5
Rochester, N. Y.	10.8	11.3	5.5
Syracuse, N. Y.	10.5	11	5.5
Bridgeport, Conn.	10	10.5	4.5
Danbury, Conn.	10.5	11	4.5
Hartford, Conn.	10.6	11.1	4.5
New Haven, Conn.	10	10.5	4.5
Bangor, Me.	10.7	11.2	5.5
Portland, Me.	10.3	10.8	5.5
Boston, Mass.	9.9	10.4	4.5
Concord, N. H.	11.4	11.9	5.5
Lancaster, N. H.	12	12.5	5.5
Manchester, N. H.	11.3	11.8	5.5
Providence, R. I.	10	10.5	4.5
Burlington, Vt.	10.9	11.4	5.5
Rutland, Vt.	11	11.5	5.5

	Mineral Spirits T.W.	V.M.&P. T.W.
Buffalo, N. Y.	12.4	13.6
New York City	11	12
Rochester, N. Y.	13.2	14.4
Syracuse, N. Y.	14	....
Boston, Mass.	12	13
Bridgeport, Conn.	†16.3	†17.3
Hartford, Conn.	†16.3	†17.3
Providence, R. I.	13	14

	Kerosine Yard	Kerosine T.W.	Mobilfuel Diesel T.C.	Mobilfuel Diesel T.W	Mobilheat Fuel Yard	Mobilheat Fuel T.W.
New York:						
Manhat'n & Bronx	7.5	10.3	...	9.3	7.1	9
Kings & Queens	7.5	10.3	...	9.3	7.1	9
Richmond	7.5	10.3	...	...	7.1	9.0
Albany	7.5	9.8	6.8	9.3	7	9
Binghamton	8.9	11.2	...	10.7	8.4	10.2
Buffalo	8.6	10.9	8	10.3	8.2	10
Jamestown	8.7	11	...	10.6	8.3	10
Mt. Vernon	7.6	10.3	...	9.4	7.2	9
Plattsburg	8.1	10.4	...	9.9	7.6	9.4
Rochester	8.7	11	7.9	10.2	7.9	9.7
Syracuse	8.5	10.8	7.8	10.1	7.8	9.6
Conn.:						
Bridgeport	7.8	10.3	...	....	7.4	9.0
Danbury	8.2	10.8	...	....	7.8	8.8
Hartford	8.0	10.5	...	9.5	7.4	9.2
New Haven	7.5	10.3	...	9.3	7.1	9.0
Maine:						
Bangor	7.9	10.2	7.4	9.7	7.4	9.1
Portland	7.5	10.2	6.8	9.3	7	9
Mass.:						
Boston	7.8	10.6	6.7	9.2	7.1	9
N. H.:						
Concord	8.4	10.7	...	....	8.2	10
Lancaster	9.5	11.8	...	....	9.2	11
Manchester	8.5	11.1	...	....	7.9	9.7
R. I.:						
Providence	7.8	10.1	6.7	9.2	7.1	9.0
Vermont:						
Burlington	8.1	10.4	7.5	9.8	7.5	9.2
Rutland	8.3	10.6	... 10		7.7	9.5

*Does not include 1% city sales tax applicable to price of gasoline (ex tax).

†In steel barrels.

Discounts: Diesel—On t.w. deliveries, 0.5c for at least 400 gals.; 1c for full tank truck.

	Bunker C Fuel Ships' bunkers (Ex Lighterage)	Diesel Oil Ships' bunkers (Ex Lighterage)	Diesel Oil Shore Plants	Gas House Gas Oil 28-34 Gravity
N. Y. Harbor	$1.77	$2.78	6.7–6.8 (2)	6.8 (2)
Albany	$1.97 (1)	$2.98 (1)	7 (1)	7 (1)
Philadelphia	$1.77	$2.78	....	....
Baltimore	$1.77	$2.78	6.7 (1)	6.7 (1)
Norfolk	$1.77	$2.78	6.7 (1)	6.7 (1)
Charleston	$1.72 (2)	$2.78 (2)	6.7 (1)	6.7 (1)
Savannah	$1.72 (1)	$2.62 (1)	....	....
Jacksonville	$1.72	$2.62 (2)	....	....
Tampa	$1.62	$2.62	....	....
New Orleans	$0.97	$1.65 (1)	4 (1)	....
Portland	$1.77	$2.86 (2)	7 (1)	6.9 (1)
Boston	$1.77	$2.78	6.7 (2)	6.8 (2)
Providence	$1.77	$2.78 (2)	6.9 (1)	6.8 (1)

Residual fuel prices generally vary with A.P.I. specifications from range low for 9.9 & below degrees to range high for 25.0 & above.

Bunker "C" when from Navy storage at New York and Norfolk to W.S.A. ships .05c discount.

Gulf Coast

Prices in Effect Sept. 11

MOTOR GASOLINE	New Orleans & Lower Mississippi to Baton Rouge Tank Cars	New Orleans & Lower Mississippi to Baton Rouge Barges	Texas Gulf Coast South of New Orleans Tank Cars	Texas Gulf Coast South of New Orleans Barges	CARGOES Domestic & Export From all Gulf Ports
Leaded (oct. by ASTM)					
76 oct.	6.75	6.5	6.5 – 6.75	6.75	6.75
70-74 oct.	6 – 6.25	5.625	5.625–6.375 (a)	5.625	5.625– 5.75
63-65 oct.	....	....	....	....	....
Unleaded 70 oct.	....	....	....	....	5.75
67-68 oct.	....	....	....	....	5.5
65 oct.	....	....	....	....	5.25
60 oct.	....	....	....	....	5
KEROSINE & LIGHT FUELS					
41-43 w.w. kero.	4.125– 4.25	4.125	4.125– 4.25	4.125	4.125
42-44 w.w. kero.	....	....	4.125	4.125	4.125
No. 2 fuel oil	3.75	3.75	3.75 – 4	3.75	3.75
DIESEL & GAS OILS					
(In diesel index No.)					
Below 43 di.	....	....	....	....	....
43-47 di.	....	....	....	....	4
48-52 di.	4	4	4	....	4
53-57 di.	4.125	....	4.125	4.125	4.125
58 and above	4.25	....	4.25	....	4.25

(a) 5.625c for Dist. 1 and 5.875–6.375c for other districts.

NOTE: Above products in Truck Transports of 2,400 gal. and over ½c above Tank Car Prices.

Heavy Fuels & Bunker Oil (at all Gulf Ports) Heavy Diesels	In Cargoes	In Ship's Bunkers (Ex Lighterage)
Below 28 API Grav.	....	$1.35
28 & above API Grav.	....	$1.65
Bunker C Oil	$0.97	$0.97

NOTE—Prices for heavy fuels vary within the range given above according to gravity from range low 9.9B gravity to range high 25B and above.

Mid-Continent Lubes

(At Gulf; in packages, FAS.; in bulk, FOB terminals).

Prices in Effect Sept. 11

	Steel Drums	Bulk
Bright Stock		
D color, Vis at 210°		
200 vis.	....	....
150 vis., 0-10 p.p.	....	32.65(1&A)
100 vis., 0-10 p.p.	....	....
100 vis., 10-25 p.p.	....	....
Neutral—No. 3 color		
200 vis., 0-10 p.p.	....	....

(A) FAS at New Orleans.

Wax

(Melting points are AMP, 3° higher than EMP. Prices are FOB refinery and do not include bag, freight or export differentials).

Prices in Effect Sept. 11

Crude Scale	New Orleans Export	N. Y. Domestic	N. Y. Export
124-6 Yellow	4.25(1)	....	4.25(1)
122-4 White	....	4.25(2)	4.25(2)
124-6 White	4.25(1)	4.25	4.25
Fully Refined:			
123-5	5.2(1)	5.2(2)	5.2(1)
125-7	5.2(1)	5.2(2)	5.2(1)
128-30	5.6(1)	5.6	5.6(1)
130-32	5.85(1)	5.85(2)	5.85(1)
133-5	6.15(1)	6.15	6.15(1)
135-7	6.4(1)	6.4(1)	6.4(1)

Naphtha

Prices in Effect Sept. 11

	V.M.&P. Naphtha	Mineral Spirits
New York Harbor	11 (2)	10
Philadelphia	11 (2)	10
Baltimore	10.5 (2)	9.5
Boston	11.5 (2)	10.5
Providence	11.5 (1)	10.5 (2)

CLASSIFIED

For Sale

INSTRUCTIONS AND CHARTS for testing speedometers in two minutes without removing from car. Price $10.00. George H. Blood, Jr., Berlin, Mass.

GREASE AND LUBRICATING OIL PLANT making real money, established business many years. Will sell my controlling interest. Require about $35,000 cash to handle. A real opportunity. No debts. Selling account of bad health. Reply--904 World Bldg., Tulsa 3, Okla.

FOR SALE

NINE 100,000 GALLON
GASOLINE STORAGE TANKS

Tanks are located at Detroit. Inquire Mr. A. S. Hickok, Hickok Oil Corporation, 2313 Madison Ave., Toledo 2, O.

FOR SALE

Recapped and Used Tires

Lorain Avenue Tire Company
7982 Lorain Ave., Cleveland 2, Ohio
Phone: Woodbine 9745

FOR SALE
New and Reconditioned
IRON and STEEL
VALVES
Tested and Guaranteed
Also Fittings
APEX IRON & METAL CO.
2204 South Laflin St.
Chicago 8, Illinois

FOR SALE

Bulk plant complete in the best farming district of Arkansas Valley, Colorado. Company owned stations, additional resale accounts and consumer trade. Established business on national highway in city of five thousand. Write for details.

Box No. 447

FOR SALE

1941 White, cab over engine, WA 122 2-5 Ton 2 speed Timken axle, 5 speed transmission, 1000 x 20 tires, air brakes, horns, wipers, power take-off and 100 gal. per minute pump and single compartment tank, 2080 gal. Rubber 90%, almost new. Pulling 1941 four wheel standard steel single compartment tank, 2750 gal. Air brakes in both axles. Rubber about 70%. Front axle on truck 8000 lbs. gross, back axle on truck 16,000 lbs. gross. Total truck weight loaded 24,000 lbs. Front trailer axle 12,000 lbs. gross, rear trailer axle 12,000 lbs. gross. Total trailer weight 24,000 lbs. gross. Combination load 48,000 lbs. gross. Length 40 feet from bumper to bumper. Both units guaranteed to be in first class mechanical condition. Ceiling about $7800.00. Our price $5800.00.

Rupp Bros. Oil Company,

Box No. 1 Chillicothe, Mo.

Wanted to Buy

WANTED

Steel Tanks—500 to 20,000 gallon each. Will pay cash. We buy single items or complete plants.

Empire Equipment Corporation
608 Empire Bldg., Cleveland 14, Ohio
Phone Main 7667

Position Wanted

EXPERIENCED OPERATOR of 3-C and 1-C anti-knock engines seeking new connection. Draft exempt. Box No. 450, National Petroleum News.

Situations Open

WANTED: Refinery Instrument Repairman. Leeds-Northrup, Foxboro, Brown and Fisher Controls. Must have had 10 years experience. Permanent job, 48 hours per week. Box No. 449, National Petroleum News, Cleveland, Ohio.

WANTED

Man to run lubricating oil re-refining plant now operating on Aircraft Run-Up Oil for Air Corps. Permanent for dependable, experienced operator. Applications treated in strictest confidence.

Box No. 448
National Petroleum News

Professional Services

ANTI-KNOCK VALUES
DETERMINATORS
The Gray Industrial Laboratories
Chemists and Engineers
Specialists on Petroleum Products
961-976 Frelinghuysen Ave.,
NEWARK, N. J.
Telephone Bigelow 3-4020

ACCURATE LABORATORY TESTS
GASOLINE OIL
Standard Methods Employed
Octane Ratings by A.S.T.M. CFR Unit
THE DETROIT TESTING LABORATORY
554 Bagley Avenue, Detroit 26, Mich.

ROYAL E. BURNHAM
Attorney-at-Law
Patent and Trade Mark Practice Exclusively
511 Eleventh Street, N.W.
Washington, D. C.

Classified Rates

"For Sale," "Wanted to Buy," "Help Wanted," "Business Opportunities," "Miscellaneous" classifications, set in type this size without border—15 cents a word. Minimum charge, $4.00 per insertion.

"Position Wanted"—10 cents a word. Minimum charge $1.50 per insertion.

Advertisements set in special type or with border—$5.00 per column inch.

Copy must reach us not later than Saturday preceding date of issue.

All classified advertisements are payable in advance.

No agency commission or cash discounts on classified Advertisements.

National Petroleum News

Established February, 1909

Published every Wednesday by
The National Petroleum Publishing Co.

WARREN C. PLATT, *Editor and Publisher*
A. E. KRAFT, *Treasurer*
V. B. GUTHRIE, *Associate and Technical Editor*
V. C. REPPETO, *Managing Editor*
Y. A. KOSKINEN, *Advertising Manager*

Member of
Audit Bureau of Circulation
and Associated Business
Papers, Inc.

Publication office: 1213 W. Third St., Cleveland 13, Ohio, U. S. A. Telephone, CHerry 7672. Cable Address PLATTOIL, Cleveland. Cable inquiries are answered by mail unless subscriber advances sufficient funds in American money to cover our cable cost.

NEWS BUREAUS

New York 20, 50 W. 50th Street, Telephone Columbus 5-1516 and 5-1517.

Washington 4, D. C., 1034-36-38 National Press Bldg., Telephone NAtional 3477.

Tulsa 3, Okla., 904 World Bldg., Telephone 3-7132.

Los Angeles 14, 610-A Hillstreet Bldg., Telephone VAndike 2845.

Chicago 5, 59 E. Van Buren Street, Telephone HARrison 5901-2-3.

Subscription rate $5 per year in United States, Mexico and Pan-American Countries; $6.50 in Canada and Foreign Countries. Current copies 20 cents, except special issues; back copies more than two months old 30 cents per copy.

Copyright 1944 by The National Petroleum Publishing Co.
Trade Mark Registered U. S. Patent Office

ADVERTISERS' INDEX

This index is published as a convenience to the reader. Every care is taken to make it accurate, but National Petroleum News assumes no responsibility for errors or omissions.

American Flange & Mfg. Co. 33
Autocar Co. 17

Bowser, Inc. 29
Brown Steel Tank Co. 45

Champion Spark Plug Co. 43
Cities Service Oil Co. 49
Continental Can Co. 47

Eaton Metal Products Co. 31
Ethyl Corp. 1

Farrell Mfg. Co. ..... Inside Back Cover

General American Transportation Corp. 25
Gulf Oil Corp. 21

Heil Co. 35

Kellogg Division—American Brake Shoe Co. 57

Leland Electric Co. 18

Mansfield Tire & Rubber Co. 38-39

Philadelphia Valve Co. 53
Phillips Pump & Tank Co. 61

Silver Creek Precision Corp. 55
Sonneborn Sons, Inc., L. 62
Sun Oil Co. ..... Outside Back Cover

Texaco Development Corp. 51
Timken-Detroit Axle Co. 41
Tokheim Oil Tank & Pump Co. ..... Inside Front Cover

Viking Pump Co. 63

ABOUT OIL PEOPLE

Jack Danciger, cattle rancher, real estate man and vice president of Danciger Oil & Refining Co., Tulsa, who has spent a good deal of time in Latin American nations, was the subject of "This is America" page in the Aug. 21 issue of "Industrial Press Service," issued by National Assn. of Manufacturers. The page of drawings depicting his life tell of his being made an honorary consul of Texas by Mexico and that he spoke only Spanish until he was 18.

° ° °

Several personnel changes in the production department of Carter Oil Co. have been announced by **O. C. Schorp,** president.

R. L. Clifton has been named manager of the department after serving six months in that position in an acting capacity. He has been with the company since 1917 and until last March had been general production superintendent for eight years.

M. A. ("Mike") Wright, former chief engineer, has been appointed asistant production manager, and **Ralph E. Damp** has been made general production superintendent. Succeeding Mr. Wright as chief engineer is **Carl G. Herrington,** former division engineer and assistant division superintendent of Carter's central division at Seminole, Okla. **W. E. Leroux** has been appointed division engineer of the central division.

° ° °

The Gulf Oil Corp. has announced that **H. B. Fuqua,** chief geologist for the Fort Worth district, has been appointed assistant to the vice-president in charge of production, and will have headquarters in Houston. Mr. Fuqua joined Gulf as a geologist at Wichita Falls.

° ° °

Frank W. Begrisch, Manhattan real estate man, has been elected to the board of directors of Phillips Petroleum Co., according to an announcement by Frank Phillips, chairman. Mr. Begrisch fills the vacancy created by the death of **A. S. Woods** last April.

° ° °

Homer Smith, lubrication engineer for Consumers Cooperative Assn., North Kansas City, Mo., has been elected to membership on the governing board of Kansas City section of the Society of Automotive Engineers and has been made chairman of the students committee to work with colleges in the area.

° ° °

Latest of many high honors coming to Dr. **Gustav Egloff** of Universal Oil Products Co., is his election as a director of the Chicago Technical Societies Council.

This society represents forty scientific and technical organizations in the Chicago area, with a membership of 15,000. Dr. Egloff has also been elected a trustee of the Western Society of Engineers, which is one of the organizations represented in the Chicago Technical Societies Council.

William F. Humphrey, president of Tide Water Associated Oil Co., announced on Sept. 6, that **H. S. Chase** and **Drew L. Hines** were appointed vice presidents of the company. At the same time, **Richmond K. Kelly** was appointed assistant vice president.

All of these executives have had many years service with Tide Water. Mr. Chase has been connected with the company's refining operations for more than 22 years. Mr. Hines has had more than 21 years of service with the company in engineering, construction and transportation operations. Mr. Kelly for more than 15 years has been connected with the company's Eastern division in marine transportation operations.

° ° °

H. S. Chase and **Drew L. Hines** have been appointed vice presidents of the Tide Water Associated Oil Co., and **Richmond K. Kelly** has been made assistant vice president, according to **William F. Humphrey,** president.

Mr. Chase who has been in the refining operations of the company for more than 22 years, will continue in charge of manufacturing of the eastern division. Mr. Hines, with the company for more than 21 years in engineering, construction, and transportation operations, will remain in charge of transportation and supplies of the eastern division. Mr. Kelly, with Tide Water for more than 15 years, will continue to have charge of the eastern division marine transportation division.

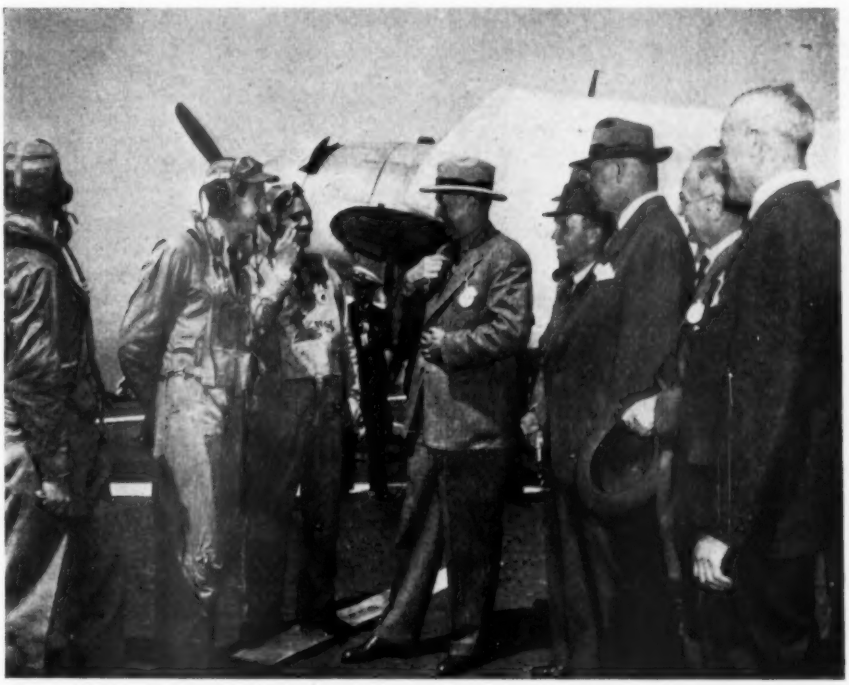
° ° °

Socony-Vacuum Oil Co., Inc., announced last week that **James M. Burke,** division marine manager for New England, had retired after 41 years of service. Mr. Burke was originally employed by the company as a junior clerk. He was appointed division marine manager in 1929. **Robert E. Madsen** was named to succeed Mr. Burke.

° ° °

Leo Metzler, former statistician for the California Oil & Gas Association, now in the Army, is spending a furlough in Los Angeles after several months training at Camp Roberts, Calif.

Oil Men Chat With Navy Pilots Aboard Carrier



Official U. S. Navy Photograph

Visiting aboard the U. S. Navy escort aircraft carrier U. S. S. Charger in order to get a sample of the realities of aerial warfare, a group of industrialists concerned with the production of 100-octane gasoline eagerly seize the opportunity to meet and talk with Navy pilots. Lieut. Robert Richmond, left, and Lieut. (jg) Thomas F. Jansen exchange pleasantries with, left to right, W. Alton Jones, president, Cities Service Co.; Grover Loening, WPB aircraft consultant; J. Howard Pew, president, Sun Oil Co.; Frank Abrams, director of Standard Oil Co. of New Jersey, and Col. Harry B. Klein, president of The Texas Co.

Dr. Rather

Mr. Holaday

Dr. J. B. Rather, New York, who directs research and development work for Socony-Vacuum Oil Co., Inc., has been appointed a member of the company's manufacturing committee and will also be technical adviser to the committee.

He joined the Standard Oil Co. of New York in 1918 as assistant chief chemist, later became chief chemist and, since 1932, has been manager of the general laboratories and chairman of the refinery process committee of Socony-Vacuum Oil Co. Dr. Rather had an active part in the Neches Butane Products Co. butadiene plant at Port Neches, Texas, in the development and design stage of this project, and is vice president of the Neches plant and a director representing Socony-Vacuum Oil Co., which is one of the five oil companies which jointly operate the plant.

Dr. Rather received his training in Agricultural and Mechanical College of Texas, University of Chicago and Johns Hopkins and is a patentee of testing apparatus and processes used in petroleum refining.

Succeeding him as manager of the general laboratories of Socony-Vacuum Oil Co. is William M. Holaday, who returned to the company Sept. 1, after having served with PAW at Washington. Starting with PAW in February, 1943, he was first chief of the Aviation Section of the Refining Division and later Assistant Director of this division. His official title with Socony-Vacuum Oil Co. is general manager of research, development and technical service laboratories. Mr. Holaday has been engaged in oil company research work since 1925, when he graduated from Ohio State University with a degree in mechanical engineering. In 1943 he was vice president for fuels and lubricants activities of the Society of Automotive Engineers.

° ° °

Edwin A. Tinch, California, Texas, and Oklahoma oil developer, has opened offices in the Chapman Building in Los Angeles.

° ° °

C. D. (Chuck) Watson, Carter Oil Co. director, has returned to his former administrative duties with the company in Tulsa, after being in Washington since January, 1942, on a special assignment.

LAZY BENCH

No Regrets

An oil executive was asked by a departing employe for a recommendation. He thought it over, then wrote, "The bearer of this letter is leaving me after this month. I am satisfied."

—Theo.—Atlantic Gal.

° ° °

Fair Enough

A Scotchman walked up to a friend at the bar and began telling him about a hunting trip.

"We shot a couple of bears," he said, "but the biggest thrill was tracking yuers."

"What's yuers?" asked the friend.

"I'll have a beer, thanks," replied the Scotchman.

Just as they reached the bottom of their glasses, the friend remarked, "Well, I'll have to be going. Got to get home and do my chores."

"What chores?" asked the Scotchman.

"Beer, please", said the other.

—Mils Nevare of Notnep.

° ° °

Gentle Hint

In reflecting your profound meditations, adherence to enunciative, well articulated categorical utterances is recommended. In the promulgation of your conceptions, recumbency upon double entendre and verbose embellishments increase incomprehensibility. Ostentation, fustian and bombast are to be shunned in favor of a predilection for conciseness and condensation, free from officiousness.

In other words:

When speaking, or writing be clear, simple, to the point, and don't use big words.

—"Chicawgo" Oil Gal.

° ° °

Romance in Algebra

Here's how an ardent young algebra teacher proved to his gal friend that he was the love of her life:

TO PROVE: That you love me.

PROOF:

1. I love you.
2. Therefore, I am a lover.
3. All the world loves a lover.
4. You are all the world to me.
5. Therefore, you love me.

—JMK—Tide Water Gal.

° ° °

No Surprise

There was a young bard from Cheyenne,
Whose poems did not always scan,
When told this was so,
He said "Yes, I know,
"I always try to get as many words into the last line as I possibly can."

—Ruthie of Associated.

° ° °

'Nuff Said

He: The trouble with you honey, is that you're lovesick.

She: Well, maybe I am, but it'll take more than a pill like you to cure me.

—Blondie—Cities Service Gal. from KC.

Correction, Please

A lad looking through a telescope muttered "Gawd".

"G'wan", said a friend, "It ain't that powerful".

—Margaret—Kyso gal.

° ° °

Home Front Note

After Joe Steele and his party had dined at a local cafe, they were astonished by the alert politeness of the parking lot boy. He wiped the windshield of Joe's car and bowed and "yes-sirred" all over the place.

"What's wrong with the lad?" queried the puzzled Steele. "Doesn't he know there's a war on?"

—Jimmie Fidler's Hollywood Col.

° ° °

Time Waits On No Man

Two stuttering oil field workers had finished heating a piece of steel and one placed it on the anvil.

"Hhhhhhhit it", he said to his helper.

"Wwwwwwhere?" was the reply.

"Aw, Hhhhhhhell, we'll have to heat it again, now."

—Ada from Decatur

° ° °

The $64 Question

"How many make a million?" asked the fifth grade arithmetic teacher.

"Very few," replied a realistic youngster.

—Ida from Mo.

° ° °

So Be It

Two men from back in the hills of West Virginia went to work on a rig out in Tyler County. It so happened that neither had ever owned a watch before and neither could tell time—and each of them wanted to keep the other from finding this out. So about quitting time, one said to the other:

"Say, buddy, what time is it?"

"Buddy" pulled out his watch, shoved it under the first man's nose and said, "See?"

The other took a look at the watch and said, "Damn if it ain't."

° ° °

Why and Wherefore

Mrs. Jones: Mandy, are you still living with that no-good husband of yours?

Mandy: Yassum.

Mrs. Jones: But Mandy—he is no good, and you have been making the living at your house for a long, long time with no help from him.

Mandy: Yassum. I knows dat I makes de livin', but he makes de livin' worth while.

—Lieut. J.R.B.—U.S.N.R.

Oil ladies! Candy for yourself or cigarets for your boy friend in the service for all contributions used. Address Lazybench Editor, 530, Penton Bldg., Cleveland.

Are You Prepared for Peace?

WILL the dawn of peace find you prepared to move ahead rapidly and systematically, or caught in a maze of hurried decisions and needless confusion? Will you sit waiting for delivery of important equipment while a more alert competitor takes business that belongs to you? These are questions that you can answer, and upon your answer may depend your post-war future. May we suggest that you do a lot of solid thinking now about the problems peace will bring. Decide now what equipment you will need to put your stations in best condition, and where you will buy that equipment. If new pumps figure in your plans, may we also suggest that you decide now to buy Tokheims, for after the war Tokheim will be ready to serve you with the best in pumps, fittings, and accessory equipment as it has in the past.

TOKHEIM OIL TANK AND PUMP CO.
DESIGNERS AND BUILDERS OF SUPERIOR EQUIPMENT
FORT WAYNE 1 FOR 43 YEARS INDIANA

Tokheim is still working night and day on war production. The quality of its contribution is evidenced by its possession of the Army-Navy "E" Flag with two stars.

QUALITY TOKHEIM GASOLINE PUMPS

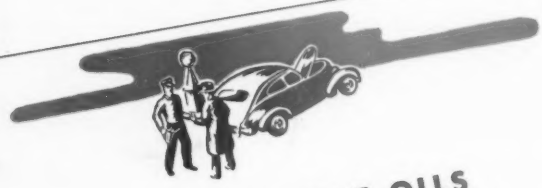
BUY AN EXTRA WAR BOND TODAY!

SUN No. 96

the MULTI-PURPOSE BLENDING STOCK

for TRUCK OILS

Sun No. 96 is ideal for blending high-grade truck oils that are low in carbon content, free from corrosive acidity and long-lasting. It will help you to get a big share of this profitable wartime and post-war market.



for AUTOMOTIVE OILS

Sun No. 96 is a perfect blending base for use with 200 Vis. Coastal stock to produce low-carbon, non-corrosive automotive oils . . . SAE 20 to 50.

for GREASES AND GEAR LUBRICANTS

Sun No. 96 can be used successfully in the manufacture of greases and gear lubricants . . . providing the exceptionally high lubricity required.

for SPECIFICATION LUBRICANTS

Sun No. 96 is widely used as a blending base for all types of heavy bodied oils to meet specifications for use on industrial equipment and machinery. It is high in lubricating value and durability.

for FARM MACHINERY LUBRICANTS

Sun No. 96 offers every characteristic necessary to blend pure, low-carbon, durable oils and greases for use in almost all types of farm machinery and implements.

To obtain complete information about Sun No. 96 or any other products in the complete Sun line of pre-tested lubricants, write

SUN OIL COMPANY · *Philadelphia 3, Pa.*

SUN *Pre-Tested* LUBRICANTS

Complete Line of Finished Oils, Blending Oils and More than 60 Greases and Bases